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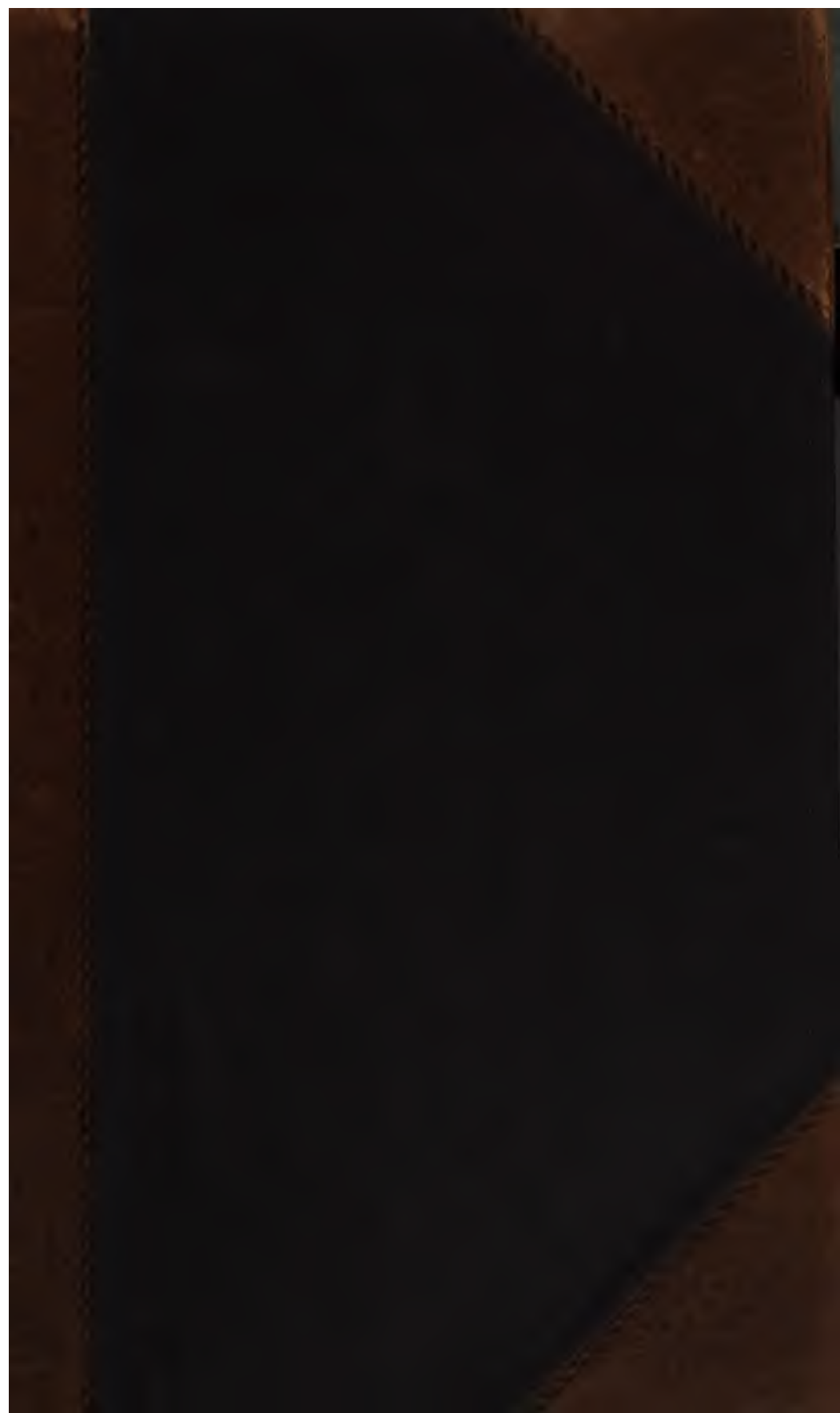
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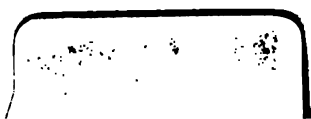
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THE
NATIONAL
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EDITED BY

EDWARD I. SEARS, LL.D.

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THE
NATIONAL QUARTERLY REVIEW.

No. LV.

DECEMBER, 1873.

ART. I.—1. *First, Second and Third Annual Reports of the State Board of Health of Massachusetts.* Boston. 1870-1-2.

2. *First and Second Annual Reports of the Board of Health of the Health Department of the City of New York.* New York. 1871-2.

THE progress of sanitary science is fast reducing the problem of etiology to a mathematical certainty. Diseases that a few years ago were looked upon as mysterious dispensations of still more mysterious providences are being stripped of their obscure and uncertain nature and origin, and dissipated by the aggressive sanitary progress of civilization. It is not more demonstrable now that light is indispensable to life, than that cleanliness is indispensable to health. Cleanliness and health are the inevitable antitheses of filthiness and disease. Statistics of death and disease, yea of crime too—for crime belongs to the same department of morbid phenomena—everywhere go to show that the connection between dirt and disease is that of cause and sequence. The antithesis is as fixed and unalterable as light and darkness, heat and cold, or the south and north poles. The attentive observer of etiological phenomena is as certain

of the localities where the destroying angel, death, should reap his richest harvest, as he is of the abodes of darkness, of vice, and of foul fumes. The prevalence of narrow streets, unventilated and over-crowded homes, enable him to locate, without doubt or hesitancy, the border-land between good health and pure morals on the one hand, and disordered health and immorality on the other. The shadows of infection with their accompanying horrors, embracing every phase of morbid derangements, from petty vices and influenza to monstrous crimes and typhus, can be traced upon the map of a continent with a precision rivalling that of water-currents, the course of storm and wind, or, in the heavens, of that of the orbit of the earth itself. Such, in fact, is the progress in this direction within a few years as to leave no doubt in the minds of intelligent conservators of the public health, of their ability to reduce the virulence of all contagious and epidemic diseases, disperse pestilential maladies, and extirpate altogether from the best approved nosologies a number of diseases which our wise doctrinaires of the past regarded as indispensable to the stability of the dogma of total depravity.

This conclusion, respecting the sanitary progress of mankind under civilization, is no vague generalization from partial and imperfectly observed facts; nor fanciful deductions of still more fanciful intuitions; nor theoretical abstractions concerning the era referred to in the lion-and-lamb allegory; but is rather an induction whose data are indisputable and within easy reach and apprehension of all. Mortuary records of undoubted credibility show that wherever sanitary science is cultivated and its precepts enforced, the force and frequency of disease diminish, and with it a corresponding reduction of the death-rate. If long life be a desirable desideratum in this vale of tears, under the corruptest administration of republican government the world has seen, it seems not unlikely to be numbered at no distant day among the triumphs of civilization. Life is a precious boon under any circumstances, and civilization can confer no blessings more highly appreciated by mankind in general, and the individual in particular, than health and longevity.

It will be an easy inference, from what has already been said, that health, and its corollary, prolongation of life, are the legitimate results of improved means of subsistence. Those agents and influences most prolific of disease and death, viz.: foul air impure and deficient supply of water, unwholesome food, privation of light, air, and sunshine, personal untidiness, exposure to extremes of heat and cold, idleness and improvidence, etc., operate by vitiating the blood, primarily, and through that medium, by corrupting the vital processes and perverting the nervous and mental functions. If exercise be the law of growth, surely, cleanliness is the law of life; for impure vitiating elements, generated within the organism, or absorbed from without, are the readiest and most certain means of subverting the powers of both body and mind. This, at least, is the conclusion at which many eminent observers of the phenomena of health and disease have arrived. Notably among these was the late Dr. Benjamin Rush, who thought the means of preventing pestilential fevers were as much under the power of human reason and industry as the means of preventing the evils of lightning or common fire. "I am so satisfied of the truth of this opinion," he continues, "that I look for the time when our courts of law shall punish cities and villages for permitting any of the sources of bilious and malignant fevers to exist within their jurisdiction;" and if bilious and malignant fevers, why not other diseases also, whose causes are equally subject to sanitary control? The boards of health of the various towns and cities throughout Christendom, enunciate expressly, or in figures—which cannot lie—the same conclusion, only adding to this list of preventible diseases many others of equal fatality, whose causes have only yielded themselves to the researches of more modern times. In a recent exhaustive investigation of the causes of typhoid fever, as it occurs in the commonwealth of Massachusetts, by her able and efficient board of health, the conclusion arrived at is that the disease arises in the "*decomposition of organized (and chiefly vegetable) substances.*" "Whether the vehicle be drinking-water, made foul by human excrement, sink-drains, or soiled clothing; or air made foul in enclosed places by drains, decaying vege-

tables or fish, or old timber, or in open places by pigsties, drained ponds or reservoirs, stagnant water, accumulations of filth of every sort, the one thing present in all these circumstances is *decomposition*.”*

The report, from which we quote, darkly intimates that fevers of a miasmatic character, such as intermittent, remittent, and relapsing, may arise from analogous causes, the type of the fever in each particular instance being due to the variety of circumstances under which decomposition occurs, and the consequent varieties of morbid substances engendered thereby. This hypothesis is highly plausible. Nor are these causes of continued and other fevers limited to the production of inflammatory effects alone. The evidence furnished by the report referred to tends strongly to the conclusion that dysentery, diarrhoea, cholera, diphtheria, etc., have a similar origin, and are amenable to similar sanitary influences. The same causes, also, influence, in a marked degree, the course and termination of those fevers and inflammations, such as measles, variola, scarlet and puerperal fevers, erysipelas, etc., which uncomplicated, are mostly self-limited, subsiding with the elimination of their special causes, but which, under miasmatic and insalubrious surroundings, become very serious and often fatal maladies. In fact, it may be said with truth, that there are no diseases, however simple and trivial in their inception, which may not be gravely complicated in an atmosphere contaminated with the noxious elements of decomposing organic matter. A simple boil, under such environments, may become a carbuncle; traumatic inflammation run into purulent suppuration and gangrene; and even the bite of a harmless insect seriously compromise life itself. Multitudes of lowly conditioned human beings, living in abodes of darkness and filth, breathing an atmosphere overloaded with elements inimical to the vital economy, whose blood is surcharged with humors impregnated with the germs of every form of pestilence, exist to-day within the precincts of civilization, in just that state of disease-disposing condition

* *Second Annual Report State Board of Health of Mass.*, p. 178. 1871.

in which the least exciting cause, like an electric spark in a magazine of gunpowder, kindles a vital conflagration of a most mischievous character and indefinable extent. They are an element of weakness and danger to the state; weakness, in that their low vitality and short lives seriously check productive industry and thrift; danger, in that they are the unwitting and irresponsible instruments of propagating infection to more favored communities, and are, also, the chief sources of moral disorder, pauperism, and crime. The state, therefore, has a deep interest in ameliorating the condition of this class of her citizens; an interest she can ill afford to ignore or disregard, as it comprehends the social welfare of her citizens, as well as her own honor, glory, and material prosperity.

There is no subject, perhaps, which more forcibly exhibits the stupid apathy of mankind relative to health topics than that of the enormous mortality of infancy. It is difficult to persuade any rationally minded person but that children were designed, by a good and wise Providence, to grow up to manhood and womanhood; nor that the fearful mortality which attends upon their entrance into this world is the result of man's imbecility, or inhumanity, or both. Mortuary records do, indeed, of late years, show some improvement in the treatment bestowed upon the little innocents, but it is still very defective. Half a century ago, nearly half of Christendom died before reaching its first year, and nearly three-fifths succumbed to disease and morbid surroundings before arriving at its fifth year! Even now half the human family still fail to survive their fifth year, and that too from causes as clear to all intelligent observers as any that disturb the course and stability of the most ordinary phenomena, and vastly more amenable to human mediation.

The following figures show the exact comparative mortality of children under five years of age in New York for the year 1870. That of 1872-3 are equally favorable. The total number of decedents for the year 1870 was 27,175; of infants under one year old, 8,383, or nearly 31 per cent. of the total number; of children under five years, 1,333, or 49 per cent. of the total number, "being

a relative decrease of 2 per cent. as compared with 1869, and $3\frac{1}{2}$ per cent. as compared with 1868, and of 4 per cent. as compared with 1869." The report continues: "Altogether, therefore, within the past five years, the mortality among young children in this city has manifested a decided and constant tendency toward improvement."*

Zymotic diseases, a class of disorders so closely identified with unwholesome surroundings as to suggest a reasonable suspicion of being caused by them, caused the death of 7,861 children in New York in 1871.† Of this number 5,069 resided in tenement houses and hospitals, and 2,792 in private houses, boarding houses and hotels. Forty-three per cent. of deaths from this cause were infants under one year, and sixty per cent. in those less than two years old!

The late Dr. Andrew Combe very forcibly observes:

"So directly, however, is infant life influenced by good or bad management, that about a century ago the workhouses of London presented the astounding result of twenty-three deaths in every twenty-four infants under the age of one year! For a long time this frightful devastation was allowed to go on as beyond the reach of human remedy. But when, at last, an improved system of management was adopted, in consequence of a parliamentary inquiry having taken place, the proportion of deaths was speedily reduced from 2,600 to 450 a year. Here, then, was a total of 2,150 instances of loss of life occurring yearly in a single institution, chargeable, not to any unalterable decrees of providence, as some are disposed to contend, as an excuse for their own negligence, but against the ignorance, indifference, or cruelty of man! And what a lesson of vigilance and inquiry ought not such occurrences to convey, when, even now, with all our boasted improvements, *every tenth infant still perishes within a month of its birth.*"‡

The italics are Dr. Combe's. Our Pagan forefathers resorted to the practice of exposing their delicate and infirm infants soon after birth, and in that way effectively got rid of a troublesome and expensive incumbrance, and put an end, also, to miseries in their young which they had neither the wisdom nor inclination to contend with. Many of the tribes of the North American Indians practise

* *N. Y. Health Report*, 1870, p. 284.

† *Ibid.* 1871, p. 187.

‡ *Infancy*, pp. 26, 27.

the same custom to-day, and in view of it we hold up our hands in holy horror, and thank God that we have outgrown a custom thus barbarous and inhuman! But we may seriously question the superior humanity of a custom which spares such offspring to linger out a miserable life and die at last a premature and torturing death; and of a society which, having the means, neglects to make adequate provision for their intelligent care and rearing. We respectfully submit that the Pagan custom of dealing with the infant problem is the most humane of the two, and vastly more economical.

The physical welfare of man is so clearly subject to conditions, which society alone can adequately supply, that it becomes the obvious duty of the public to assume and to discharge the responsibility. It is a responsibility imposed by nature, and the exigencies of the social state; and its assumption by the state is dictated by the highest considerations of morality, no less than the demands of public or political economy. The costliness of disease is a fearful burden to the state, and seriously impairs its growth and material prosperity. "Some idea of the cost to the country of preventible disease," says the *Edinburgh Medical Journal*,* "may be gathered from a calculation in the *Times* of 12th December [1871] of the actual cost of enteric (typhoid) fever, during the last ten years, since the death of the Prince Consort. The data assumed are, on an average annual mortality of 20,000, a mortality of one in six, a value of £100, for each life lost, and a cost of £12 per case in loss of labor, and expense of maintenance. These data are manifestly conjectural, but they have a known basis of reality sufficient to entitle them to consideration as a rough measure, probably under the mark of the extent of an evil we have hitherto tamely endured, and upon them is founded the calculation that during the last ten years, the loss to the country from the unchecked spread of enteric fever has been not less than £34,000,000 sterling, or an average of upwards of three millions of pounds sterling per annum, besides an additional sum for interest. Surely, as Dr. Acland has

* January, 1872.

said, no measure could so redound to the glory of a government than one which would render such expensive and senseless accidents impossible, alike in the houses of rich and poor, and the *Times* has made this practical suggestion, that any case of enteric fever should lead to a judicial inquiry into its causes, and any person or corporation found responsible for any act or default for its production should be liable in pecuniary damages to the sufferer or his representatives. There can be little doubt that some such enactment would at once lead to such watchfulness over architects, builders, and plumbers, as would speedily produce a marked sanitary reform. And we see no reason why railway companies should be amerced in heavy damages for accidents from defective material, while architects get off scot free for so-called accidents more harrassing and painful in their nature, more expensive to the country, and no more to be regarded as "dispensations of providence than deaths following running a train with a cracked axle in its midst."

The *Times*, however, does not indicate the most prolific sources of disease and physical disability—undrained swamps, imperfect sewage, uncleansed and narrow streets, overcrowded tenements, deficient supply of water, air, light, etc., which are as clearly objects of public supervision as any in the foregoing enumeration. And it is a narrow sight that would extend an intelligent control over one avoidable evil and withhold it in the case of another. The propriety of the State's assuming the responsibility to provide for the welfare of its citizens, is not called in question under circumstances of invasion, famine, internal improvements, commercial enterprises, coining money, etc. These are managed with due regard to the public convenience and economy, while the equally obvious auxiliaries of public prosperity, those of sound bodies and long life, are left to the mercy of chance, or subject to a partial and superficial surveillance. Meanwhile infection stalks abroad, depopulating the state and compromising the physical and moral integrity of those who chance to escape a worse calamity. The interest of the state in the public health, however, is not a question for

serious argument. That subject is settled by the most obvious principles of political economy. It is closely identified with dollars and cents. It is allied to industry and material prosperity. That state is the wealthiest whose people are the healthiest; the most powerful, whose people are the most able-bodied; the most influential, whose people live the longest; and a commonwealth that neglects to furnish its citizens the primary and fundamental conditions of material prosperity, deserves the fate of him who sails his ship upon an unknown and tempestuous sea, unaided by implements of meteorological observation, or the common safeguards against shoals, rocks, and windstorms.

If, however, the interest of the state in the public health is so obvious that it is removed from the plane of rational controversy, the question of her just responsibility for the existence of disease and other evils is not thus removed, and cannot be so easily disposed of. If the rule to determine the responsibility of the individual be applicable to determine that of the state, it will be conceded that her responsibility is only limited by the knowledge she possesses, or might, by the exercise of due diligence, possess, and the means at her command for the faithful discharge of that responsibility. If this rule be a sound one, the state's jurisdiction in all matters pertaining to the public welfare grows continually with the growth of her capabilities, and extends with her extent; is, in fact, limited only by the confines of an opportunity, which practically has no limit, at least so long as the citizen has one wrong unrighted, one grievance unredressed. The faithful discharge of such a trust comprehends the perfection of government. It contemplates the exercise of the supreme prerogatives of the state, in behalf of the good of man—MAN in the aggregate—the average man of Quetelet. It comprehends the organization of society with the comprehensive object of conserving society's good—the good of all—not only of the greatest number, the majority, but of the least minority. If the apparent rights of isolated individuals suffer thereby, it must needs follow that such so-called rights are inconsistent with the public good—are, in fact, the outcome of an

abnormal social state—and, as such, are not deserving of general respect. Their abrogation, therefore, is demanded not only by public right, but also, by the ultimate interests of the individual himself, who can have no real permanent interest opposed to that of society in general. We cannot forbear to remark, in passing, that it is a manifest error to suppose, as many do, that an increase of knowledge and improved culture, brings to the individual a larger degree of liberty in the social state. The highest idea of liberty contemplates the complete subjection of the lower, material wants of the individual to the higher. Except the liberty to do right—to act unselfishly—civilization tends constantly to restrict the liberty of the individual, and to increase that of MAN. The freedom of a civilized man obviously suffers in comparison with that of a savage. The latter may do as he will with his own, although it be inimical to the interests of his tribe; the former, however, has no such freedom. He is expected to yield his own to his neighbor's—to society's good. In this particular mankind are fast fulfilling one of the commonest precepts of the old common law—of all real law. He has no right to keep on his premises a noisy dog; nor chickens, pigs, or other animals, to his neighbor's annoyance and discomfort. He must not vitiate the public air by maintaining noisome conditions in his home, or person, or upon his grounds. He is expected to carry on no trade, traffic, or business, that is offensive to his fellow-men, or which compromises the general welfare. He has no right to be sick, to breed infection and pestilence within the "sacred" precincts of his own domicile, if in doing so he expose the welfare of others. He must not offend the average sense of good taste and decency, by modes of life, eccentricities of dress, personal demeanor, habits, and manners. He must send his children to school, that society may not be unnecessarily prejudiced by their ignorance and indigency. In brief, civilized man is expected to hold in sacred keeping the rights and interests of others, and to indulge no wish, or fancy, or desire of his own, that can possibly disturb the peace, order, and social equanimity of those with whom he lives. In a perfectly civilized state, society absorbs,

to a greater or less extent, the rights, privileges and immunities of the individual. He yields them up to her, and in return, and in lieu of doing so, the individual naturally looks to society for security and protection against all dangers to his life and fortunes, of whatever nature, be they foreign foes, private trespass, raids of the lawless upon his rightful possessions, the negligence of public servants, or the invasion of infection and pestilence. This dependence of the individual upon society grows more and more complete with advancing civilization. The reciprocity will be perfect when society appreciates the full responsibility the fact imposes upon her, and assumes the just discharge of it.

Returning from an apparent digression, we proceed to indicate some of the more obvious means within state or corporate jurisdiction for conservating the public health. The most direct and practical means of protecting a community from febrile and epidemic diseases is a bountiful supply of pure water. The highly solvent and absorbing properties of water make it a universal cleansing agent. We have only to contrast the quality of the waters of our rivers at their fountain head, as they pour in little streamlets from mountain gorges, with that of the same waters at their outlet to the sea, after having washed on their way a hundred miles or more of shore, and absorbed the refuse of a dozen or more cities, for a practical illustration of the fact. Even the murky Thames, before entering London, is said to be a water of singular purity and sweetness. But this very peculiarity of water to absorb unwholesome elements makes it exceedingly liable to become the vehicle of disease, and increases the necessity for the exercise of discretion in the sources of its supply for human uses. For this reason the waters of surface wells and cisterns are frequently—the latter always—impregnated with the seed-germs of disease; and neither can be used in the animal economy with uniform safety. The growing knowledge of etiological causes tends strongly to implicate these sources as the chief fountain of the virulent fevers, and miserable cachexias which have for their proximate cause the horrid reality of blood-poisoning. The induction is strikingly confirmed in the history of typhoid fever and dysen-

tery in the city where the writer lived and practised during the earlier part of his professional career. Before the introduction of water from the country rivulets, and a thorough system of street sewage, both of those diseases, with the added one of diphtheria, were alarmingly prevalent in the beautiful city of Newburgh and its suburbs. It was a matter of grave surprise among its inhabitants, that a town so beautifully located, so high above the river, with such rare advantages for drainage which its hillside position afforded, should not be the most salubrious spot on the planet! But at the period of which we are writing, some fifteen years ago, the water of that city was supplied by wells, and the collection of those infernal cavernous pits called cisterns, of which no house was then regarded complete that had not, at least, one. There was absolutely no drainage except that afforded by the hill-side, and the possible cesspool from the house sink. To this disability must be added the old time-honored graveyard in the centre of the village, around which the inhabitants thickly settled, its position being a convenient plateau at a considerable elevation above the river, and at the same time, easily accessible to the ferry, steamboats, cars, etc. Of course, numerous wells supplied the water of the neighborhood, many of which were in close proximity to the iniquitous graveyard referred to. And even now, within a few yards of that "city of the dead," stands a public pump in active demand among people of a certain sort, the water from it being cooler in warm weather than that from the hydrant, and possessed also of some other unexplainable qualities which endear it to the palate of many unreflecting people. To what extent the soakings of the graveyard, with its crumbling tenements, were concerned in giving flavor to the beverage, it is of course impossible to say with any degree of precision, but it was never possible for us to ignore their connection altogether, nor to doubt that the relation of the two was that of cause and sequence.

Meanwhile those infectious diseases, diarrhœa and dysentery, were fatally rife there in the summer months, and typhoid fever equally so in the spring and autumn. Indeed, there are few old inhabitants left in the town who have not

gone through a regular siege of those maladies; while numerous members of the community, of every grade and condition, have succumbed to their ravages. The most fatal prevalence of the disorders was in the immediate neighborhood of the old cemetery referred to, extending eastward to the streets below, and southward to less affluent settlements. In each of these localities the mysterious visitations of typhoid providence were of frequent and fatal occurrence, attacking doctors and their clients indiscriminately. The introduction of pure water, closing up old wells and cesspools and their allied iniquity, cisterns, and the construction of ample sewage, have measurably dissipated those diseases from the city; and Newburgh may now justly claim a high place among the wholesome districts of the continent. The sanitary improvements of the city, however, did not reach the antiquated graveyard. That is still retained in its midst, a pet of infection, which the worship of memories holds too sacred for removal or molestation. It is impossible, however, to withstand the conviction that it is a serious offence against the physical welfare of the city; nor to doubt that the recent improvement of the public health there is due entirely to the public improvements referred to.

The case of Newburgh is by no means an isolated one. The mortuary history of all incorporated towns have had, and are now having, a similar experience. The cities of New York and Boston give the world an instructive lesson on the subject in the annals of their health reports. So, also, do the great cities and boroughs of the Eastern continent. A recent report of "The Medical Department of the London Government Board" furnishes some interesting facts in this connection. We quote a paragraph:

"At Terling place ten persons were attacked with enteric [typhoid] fever, and all these persons, and these only of a large family, drank water from a particular well, into which it was discovered that a cesspool leaked. At Dicken-Bonnet, in Essex, a certain well was polluted, and out of eighty-eight drinkers from that well, forty-two persons were attacked. At Nunnery, a village in Somersetshire, having a population of eight hundred and thirty-two, Dr. Ballard records seventy-six cases of enteric fever as occurring in four months. The cases were limited in

a remarkable way to families who obtained their water supply from a small rivulet which received the sewage of several houses up stream. At Hawkesbury, Upton, in Gloucestershire, a village of six hundred and fifty-seven inhabitants, within a short period ninety-five cases and fourteen deaths from enteric fever occurred, in groups following the excessive pollution of different wells in the village. Banbage, a village in Leicestershire, as recorded by Dr. Gwynne Harris, had an outbreak of enteric fever from the same cause last year. No one took the fever in the village except persons who certainly, or presumably, drank water from a particular pump; and every house supplied from that pump was subject to infection."

Old pumps, it should be observed, from their great liability to accumulate fungi, are frequently a source of serious infection to water—as a beverage, especially. The able, and in many respects, exhaustive reports of the investigations of the State Board of Health of Massachusetts, into the causes of the various diseases which depopulate that commonwealth, lie before us. They clearly show that a large percentage of her annual mortality is due to causes within the control of the corporate authorities. The sanitary measures put in operation under the supervision of the board are already developing legitimate results upon disease and premature death. The causes of fevers and consumption, from which large numbers of her population die, or are disabled, annually, appear to be avoidable causes to a large extent;—causes not altogether subject to the control of the unhappy victims of the diseases themselves, but which are clearly amenable to organized, intelligent effort on the part of the state and corporate authorities. In respect to typhoid fever, which in malignity and mortality unquestionably heads the list of fevers, and which for many years past has been particularly prevalent in the Bay State, the sanitary reports of the board of health clearly show that it yields readily to those sanitary reforms which comprehend the removal of its exciting causes. The nature of these causes have already been indicated. The opinion as to their preventibility is thus stated in one of the interesting reports referred to:

"With the single exception of such changes as may occur in soil through natural processes, all the various causes assigned are within

human control ; they are, indeed, instances of human neglect ; of the omission of what all human experience has shown to be necessary for the preservation of the highest condition of general health. And, standing in the connection they do to one of our most destructive special diseases, they but enforce the truth of the general statement, that clear air and clean water are among our greatest blessings.”*

Below will be found some statistics of the disease in Boston, in confirmation of the writer's opinion :

Table of Deaths from Typhoid Fever in Boston, compared with a fixed number of the living in each year.

YEAR.	POPULATION.	DEATHS.	DEATHS TO 10,000 LIVING.
1846	116,865	133	11.4
1847	122,346	300	24.5
1848	127,827	288	22.5
1849	133,308	149	11.2
1850	138,788	104	7.5
1851	142,693	170	11.9
1852	146,598	110	7.5
1853	150,503	111	7.4
1854	154,408	102	6.6
1855	158,313	90	5.7
1856	162,218	76	4.7
1857	166,123	86	5.2
1858	170,028	75	4.4
1859	173,934	85	4.9
1860	177,840	110	6.2
1861	180,735	96	5.3
1862	183,630	74	4.0
1863	186,526	130	6.9
1864	189,422	117	6.2
1865	192,318	137	7.1
1866	195,214	101	5.2
1867	198,110	91	4.6

It is clear from this table that typhoid fever is dying out in Boston, under the improved means for the conservation of the public health. The report from which we quote says the diminution in the number of deaths was very marked “in the years following an abundant supply of pure water;”† for by that means the people had not only a copious supply of pure water to drink, for bathing, culinary purposes, etc., but the air of the whole city was rendered more sweet and salubrious to

* *Sec. Ann. Rept. State Board of Health of Mass.*, p. 178.

† *Ibid.*, p. 178.

breathe by the cleansing effect of the water on the drains and sewers, which, before the introduction of water, were liable in dry seasons, especially, when there was the greater need of purity, to become obstructed and foul, vitiating the atmosphere for miles around, and adding largely to the average death-rate of the city.

Moreover pure air is largely dependent upon abundance of pure water, and both are indispensable to human health. In large towns and populous districts, the individual, in spite of all the means within his power, would forever remain deprived of both; the means and considerations upon which their supply depend being under corporate control, and the associated effort of individuals and capital. This being obviously the case, we do not see how a corporate community could answer to itself for the faithful discharge of public functions, that neglects this indispensable requisite of public health. When a devouring fire devastates large cities and property interests, the economic sense of mankind is severely shocked, and the universal feeling is that some great blunder or defect exists, or has been committed; some law of public polity violated, or it could not have occurred. This feeling is the spontaneous promptings of an educated instinct; and the truth it foreshadows is no less true in respect to the prevention of morbid causes than it is to that of the more obvious material calamities,—fire, railroad collisions, shipwrecks, etc. That shrewd, intelligent insight and foresight which apprehends and averts the causes of one set of these phenomena, are fully equal to the exigencies of the other; the essential requisite being in either instance a clear comprehension of causes, and an intelligent application of means to ends—nothing more.

The sanitary importance of pure water, we have said, is second only to that of pure air. In the wise economy of organic nature its uses are most apparent. It is not needful to remind intelligent readers that the blood of all animals is, at least, four-fifths water (in most instances foul at that); nor that it is through the solvent and limpid properties of water that the elements of nutrition find access to the different parts of the living system, and are thus made available to the wants

and necessities of organic life. The same properties of water, also render it available in depurating the system of worn out and effete débris; and of cleansing the various pores and channels of the body of that which otherwise would necessarily obstruct and vitiate it in every part. The external uses of this element are in all respects similar to those of the internal—dissolving and carrying away from the surface of the body foreign and unwholesome accumulations, and enabling the skin the more perfectly to perform its several functions. Indeed, the complex uses of water in the animal economy may all be summed up in one comprehensive infinitive—to *cleanse*. It cleanses the atmosphere of infusoria, smoke, unwholesome aromas, and noxious gases by absorbing them to itself, returning to the air meantime the elements of freshness and purity, its own ethereal essence—vapor. The air over and in near proximity to large bodies of water, therefore, could not but be sensibly purer, and better fitted for purposes of respiration than elsewhere. Moreover, it cleanses our homes and highways; taking into itself the noisome accumulations incident to all compact communities—of the streets and alleys, the drains and the sewers, and carrying them away to the sea. Herein consists one secret of its great beneficence as a sanitary agent, and also, of its importance in connection with public baths.

We have already remarked the improvement of the sanitary condition of Boston by the introduction to that city of an abundance of pure water. The sanitary condition of Philadelphia, New York, Brooklyn, and other cities has, likewise, been greatly ameliorated by the same means, and bear corroborative testimony of the beneficence of that element. So great, however, was the decline of fever in Boston the year following the introduction of the Cochituate water, that the physicians of that city very generally remarked it, and gave willing testimony to the wholesome salutary influence of the improvement. "I have noticed," writes one of the oldest and most experienced physicians, "since the time when Cochituate water was introduced, that typhoid fever has been less frequent in proportion to the population, and generally mitigated in its character." * And

* *Second Annual Report State Board of Health*, p. 178.

another testifies that fevers in general had been "comparatively less frequent, and much mitigated in severity since the introduction of pure water."* Cleanliness is so obviously antagonistic to fevers of every variety, that it would seem superfluous to detail evidence in support of the general sanitary influence of those measures best calculated to promote it in the bodies and abodes of mankind. The introduction of an abundant supply of Cochituate water to the fever districts of Boston could not but add a large per cent. to the average duration of life among all classes of her dense population, unless, indeed, that city were outside the operation of the ordinary laws of animate nature.

What Cochituate water and effective drainage has done and is doing for Boston, Croton and Ridgewood waters are doing for the cities of New York and Brooklyn. In these cities, however, the evils of overcrowded tenements, in narrow, filthy streets and alleys, resemble those of London and Liverpool, and no amount of water alone is adequate to give the requisite relief. No class is safe from contamination that live in near proximity to them, however pure and sweet their own homes may be. The death rate is appreciably higher, even among the best class habitations of that kind (tenement) than in single dwellings. The following table on this subject, condensed from one in the First Annual Report of the Board of Health of the City of New York (1871), presents this fact in a clear light:

Comparative Mortality in Tenement Houses, Charitable Institutions, and Private Dwellings, during the years 1868, 1869, and 1870—New York.

TOTAL NUMBER OF DEATHS IN THE YEAR	1868.	1869.	1870.
In tenement houses, ...	14,550	13,225	13,052
" charitable institutions, ...	4,314	4,065	4,945
" private dwellings, ...	6,025	7,817	9,178
Per cent. of death in tenements, ...	53.46	52.79	48.02
" " charitable institutions, ...	75.59	68.94	66.22
" " private dwellings, ...	24.21	31.06	33.77

* *Second Annual Report State Board of Health*, p. 178.

After making all reasonable allowance for a variety of causes, besides those which may be justly attributed to tenements, which unfavorably influence the death-rate among those who inhabit tenement houses, the above table clearly shows the marked superiority, in point of salubrity, of the private dwelling over the best tenement. It also exhibits in clear light the favorable influence of sanitary reforms, upon the rate of mortality, which have been enforced upon all classes of dwellings. The report indulges in the following just summary of inductions upon the above figures:

"In 1868, nine thousand six hundred and two tenement houses contributed fourteen thousand five hundred and fifty deaths, and the charitable institutions of the city—most of whose patients came from these dwellings—four thousand three hundred and thirteen more, being together 75.79 per cent. of the total mortality. In 1869, thirteen thousand two hundred and twenty-five deaths took place in eight thousand eight hundred and fifty-three tenement houses [a large number of the poorer class tenement houses had been pulled down or otherwise vacated during the year by order of the board of health], and four thousand and sixty-five [deaths] in [the] hospitals, being together 68.94 [per cent.] of the total mortality. In 1870, eight thousand four hundred and nine tenement houses furnished thirteen thousand and fifty deaths, which, in conjunction with four thousand nine hundred and forty-five [deaths] more in the public institutions, amounted to 66.22 per cent. of the total mortality. We thus discover a gain of 9½ per cent. within three years, or, in other words, a saving of two thousand six hundred lives, which would inevitably have been sacrificed had they been exposed to former local insalubrious surroundings, as well as to the unfavorable natural conditions of the year."*

Two thousand six hundred human lives saved to themselves, their friends, and to the industry of the state, during three successive years, in the city of New York! If we include with the rest the savings of an incalculable amount of mental suffering which the near prospect of a "leap in the dark" would bring to such a large number of human beings, some just estimate of the value and importance of the sanitary labors of the Health Board may possibly be conceived of. And yet, as good as this showing is, how many more precious

* *First Annual Report N. Y. Board of Health*, pp. 260, 261.

lives and suffering hearts might not this same Board of Health have saved and relieved, if the law under which it was organized had given it a greater degree of supremacy in its department, and permitted the exercise of a more arbitrary and intelligent discretion in prosecuting sanitary reforms? The solution of the problem is amenable to the rule of three. The death-rate decreases in the same ratio with which sanitary improvements are enforced. In the name of the common law what better warrant is required for their full enforcement?

The close connection which subsists between disease and poor habitations, ignorance and crime, drunkenness and poverty, is so remarkable, that one cannot think of them except as having the relation of cause and sequence. Poor lodgings are invariably accompanied with ignorance, ill health, immorality, and a high death-rate; whereas, on the other hand, comfortable homes are everywhere associated with the most improved moral and physical conditions. This fact has always been prominent in statistical reports of crime and disease, and nowhere more so, perhaps, than in Boston and New York, except it be in the large mining and manufacturing boroughs of England. Indeed, it has long been a most noticeable feature in the statistical tables of the United Kingdom, and has frequently called forth legislative interference, and been the object of reform and amelioration by many well-known, large-hearted, and practical-minded philanthropists. The table below, taken from Professor Leone Levi's report in 1866, to M. T. Bass, Esq., M. P., on the condition of the working classes of England, condenses in a small space a vast amount of information, and affords a very instructive lesson on this subject. It will repay an attentive perusal.

*Influence of Dwellings upon the Inhabitants.**

INDUSTRIAL DISTRICTS.	RENT OF HOUSES IN PARLIAMENTARY BOROUGHES.			EDUCATION. Signatures by marks in the Marriage Register.		Drunken- ness.	Mortality.
	Under £1.	£1 to £10.	£10 and upwards.	Males.	Females.		
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
England and Wales, . . .	30	17	53	23	32	0.50	2.38
Cotton Districts, . . .	58	18	24	26	57	0.80	2.63
Woolen " . . .	65	9	26	23	51	0.92	2.71
Silk " . . .	48	26	26	19	37	0.47	2.31
Hosiery " . . .	45	23	32	24	34	0.45	2.91
Colliery " . . .	66	16	18	34	47	0.56	2.61
Earthenware " . . .	60	18	27	35	45	1.02	2.61
Metal " . . .	67	16	17	32	48	1.07	2.69
Iron Mining " . . .	41	50	9	48	64	0.67	2.99
Hardware " . . .	33	34	33	29	43	0.46	2.82
Cutlery " . . .	56	18	26	22	36	0.53	2.78

These facts and figures show, beyond cavil or conjecture, the benign influence of salubrious habitations, and the advantages which would accrue to society, as well as to the individual, in their general establishment. The remedy for the evils arising from the want of them can only be found in such legislation as shall prevent over-crowded tenements; making it obligatory upon landlords to construct dwellings, if at all, in accordance with the recognized principles of sanitary science, and holding them responsible, in the case of tenement houses, especially for their sanitary condition; and in so adjusting the relation of capital and labor, that the latter shall receive its just reward, and the laborer, the independence essential to maintain his self-respect. The inevitable corollary of an undue concentration of wealth is an increase of the number of the dependent poor; and a civilization which permits a social anomaly so clearly abnormal, or in which its existence is possible, has defects so manifest and vital as to render it an object of reproach rather than of boastful commendation.

If anything farther were necessary to be added in support of the hypothesis—if, indeed, the subject be not altogether removed from the domain of the hypothetical—that a large percentage of the annual mortality is under the control of sanitary regulations, it will be found in

* *The Jour. Stat. Soc.*, vol. xxxii., p. 423. From "*Wages and Earnings of the Working Classes.*" By Leone Levi. London. 1867.

the annals of the English Statistical Society, and reports of her health commissions. In England, half a century ago, the health of many large towns and boroughs was so fearfully demoralized that the subject of sanitary reform was forced upon the unwilling attention of the people of that Empire. We have before us the "First report of the commissioners" appointed by her Majesty's government for the purpose of "inquiring into the state of large towns and populous districts." The report was published in two volumes in 1844, and contains material enough to satisfy the most greedy fact hunter on health topics. In many of the tables a comparison is made between the mortality of the three classes of people most prominent in English society, namely, gentry, professional, tradesmen and operatives or laborers. The last class comprises also in the classification, the vagrants and indigent poor. The following table shows the fearful condition of the latter class in 1843, at Preston, England. It was calculated from statistics in the registrar general's office, by Mr. S. Cartwright, on the lives at death of one hundred persons from each of the three classes named, for six years ending June 30, 1843:

*Table showing the progressive decrease in the sum of vitality of three classes of inhabitants, Preston, England :**

	1. GENTRY.	2. TRADESMEN.	3. OPERATIVES.
Born, ...	100	100	100
Remaining at end of 1st year, . .	90.8	79.6	68.2
" " 2d " . .	87.6	73.5	57.5
" " 5th " . .	82.4	61.8	44.6
" " 10th " . .	81.1	56.6	38.8
" " 20th " . .	76.3	51.6	31.5
" " 30th " . .	72.3	45.9	25.2
" " 40th " . .	63.4	37.5	20.4
" " 50th " . .	56.	28.1	15.6
" " 60th " . .	49.1	20.5	11.2
" " 70th " . .	25.4	13.3	6.1
" " 80th " . .	8.	4.5	2.1
" " 90th " . .	1.3	.8	.2
" " 100th " . .	..	..	.03
	Terminates in the ninety-second year.	Terminates in the ninety-sixth year.	Terminates in the one hundred and third year.

* *First Ann. Report on the Health of Towns, Great Britain. 1844. Vol. 1, p. 174.*

In this table there are several points which merit special notice. It will be observed that the mortality among the children of operatives is most fearful between the ages of one and five, and five and ten years; 44.6 only, out of the hundred, surviving their fifth year. Among the children of the upper class, on the other hand, 82.4 in the hundred survived their fifth year, and 81.1 out of the same number survived their tenth year, showing the legitimate effects of defective sewage, underground abodes and privation of sunlight on infancy and early childhood, and the superior advantages possessed by the affluent classes over the poor and destitute in the struggle for life. This marked advantage of the affluent over the poorer class is maintained through childhood and active life, gradually decreasing, however, with the advance of old age, and finally terminating in favor of the poorer class; the last of the gentry class dying in his ninety-second year; the last of the operative terminating in his one hundred and third year. Nothing more clearly shows the superior advantages of cleanliness, light and airy homes and surroundings than the above table. In London during the same period, according to the same authority, the average duration of life, among the three classes, including the families of each, was as follows:

Gentlemen, ...	44 years.
Tradesmen.	35 "
Laborers, ...	22 "
Mean age at death, ...	32½ years*

The following table, giving the death-rate in a certain number of deaths in the city or borough of Preston (Eng.) among the above-named classes, was "calculated from the superintendent registrar's books," by the same careful hand:

* Ibid., vol. 1, p. 167.

Average age of death in Preston, from 1st July, 1837, to the 30th June, 1843 :

CLASSES.	AVERAGE AGE OF		PERCENTAGE OF EACH CLASS DYING.			Total Number of Deaths (upon which the calculations are made).
	Total Deaths.	Deaths after 21 years of age.	Above 21 years old.	Above 5 years old.	Under 5 years old.	
1. Gentry and professional men, and their families, . . .	47.39	61.165	76.31	82.43	17.57	148
2. Tradesmen and their families,	31.63	54.73	51.83	61.78	38.22	764
3. Operatives " "	18.28	50.305	31.64	44.58	55.42	8017
Average of the whole, . . .	19.6	51.25	34.11	46.68	53.32	8920
						1488

The table shows a very high rate of mortality, about 3 per cent. per annum of the total population. The report says that "during the six years under consideration there have been upwards of 2,800 deaths more than there would have been but for the operation of causes, which, to say the least, are susceptible of great control." The excess of mortality, as exhibited by the above table, was confined, it is needless to say, to the poorly fed and lodged, unclean and ill-conditioned class.

We cannot forbear to notice in the further elucidation of the importance of light and ventilation, the sanitary condition of another English city, namely, Liverpool, which is the most unhealthy town in the kingdom; "and the state of the dwellings of the working classes is also worse than in any other town in England;" "the proportion of the working classes inhabiting cellars" in that city being estimated, in 1840, at 20 per cent. of the total population (223,000). The mortality among children at that time was most frightful, owing, as the health inspector's report shows, to the overcrowding of tenants, underground, narrow, and filthy streets, poor water, improper food, privation of light, and the numerous underground schools which large numbers of the children of the poorer classes frequented. Eighteen per cent. of the deaths that occurred in Liverpool were of consumption, among women

and children* chiefly, the legitimate consequences of the impetus given to the development of scrofula, by foul air and privation of light. The greatest scourge of its dense population, however, was fever, of which as high a percentage as 1 in 27.44 is reported as having occurred in at least one ward (Vauxhall). The table below gives the per cent. "of the population of the different districts, who reside in courts and cellars, with the proportion of the entire population of each district annually attended for fever by the dispensaries, and the annual rate of mortality from all causes in each of the respective districts, in the years 1838 and 1842," inclusive.†

Proportion of population annually attended for fever in the districts named:

WARDS.	PERCENTAGE OF POPULATION IN			Fever Cases to Total Ward Population Annually.	Total Deaths. Average of Two Years.
	Courts.	Cellars.	Courts and Cellars.		
				1 in	1 in
Vauxhall, ...	45.41	12.76	58.20	27.44	23.50
St. Paul's, ...	24.74	11.33	36.07	37.66	30.67
Exchange, ...					
Castle Street, ...	18.00	9.00	27.10	56.51	31.36
St. Peters, ...					
Pitt Street, ...	26.22	7.83	34.05	109.30	31.51
Great George, ...					
St. Anne's, ...	31.28	9.32	40.60	77.02	31.74
Lime Street, ...					
Scotland, ...	15.98	6.38	22.36	237.18	41.62
Rodney Street, ...					
Abercromby, ...					

This, certainly, is an instructive exhibit; the lesson it teaches needs no further argument or elucidation. At the time these calculations were made the population of Liverpool was a little in excess of 223,000; and the mean duration of life 28.75 years, or an annual mortality on the total population of nearly four per cent.! This, however, represents the state of the public health there in a more favorable light than is justified by fact; the mortality of by far the larger class, the laboring and destitute people, reaching, in Liverpool, in 1842, the fearful death-rate of one in fifteen! The following table, compiled from Mr. Chadwick's Sanitary

* Ibid. Dr. Duncan's Report, p. 142.

† Ibid. p. 143.

Reports on England, shows the average age at death of the various classes in several of the more populous English towns, including Liverpool:*

TOWNS.	AVERAGE AGE AT DEATH.			General Average.
	Gentry and Prof. Persons.	Tradesmen.	Laborers, etc.	
Kendal	45 years.	39 years.	34 years.	36 years.
Bath	55 "	37 "	25 "	31 "
Four Metropolitan Unions . .	44 "	28 "	22 "	25 "
Leeds	44 "	27 "	19 "	21 "
Bolton	34 "	23 "	18 "	19 "
Manchester	38 "	20 "	17 "	18 "
Liverpool	35 "	22 "	15 "	17 "

"No man liveth to himself, and no man dieth to himself." The truth of scripture is amply corroborated in these mortuary figures; the mortality of the affluent and professional classes being perceptibly augmented by that of the poor and ill-conditioned class living in their midst. The report referred to remarks the fact as follows: "That the influence of these seats of pestilence is not confined to those who reside within their immediate limits, but extends itself to the whole town, poisoning the atmosphere which all classes are compelled to breathe, is shown by the fact that the excess of mortality, as compared to other towns, is found to affect the highest as well as the lowest classes of the community."† If, for instance, the death-rates of Kendal and Liverpool be compared, the force of the remark will be apparent. The well-to-do class in Kendal live an average of forty-five years, having a class of laborers who live an average of thirty-six years. Liverpool on the other hand, with a quarter of her population in courts and cellars, and two more quarters belonging to the laboring class, the poorly clothed and fed, annually sickening and dying at the high rate of one in fifteen, finds the mortality of her upper classes augmented twenty-five per cent. over that of Kendal, with no circumstances of location nor of social condition between the higher class of the population of the two towns to account for it. Surely no

* Ibid. p. 160. *Dr. Duncan's Report.*

† Ibid.

class in a community are unaffected by evils, be they physical or moral, which afflict any other class. Quetelet's "Average Man" comprehends the species and genus homo, without distinction of rank, caste, or color. "All are but parts of one stupendous whole," in the providence of the Creator; and the time is fast approaching when the state must give the fact the recognition its importance demands, if it would preserve its own moral and physical integrity.

What sewage does for the streets and air of cities, drainage does for the soil and atmosphere of the country. The neglect of this sanitary measure in the rural districts is the cause of much physical disability among their inhabitants. In many such districts the air, is of inferior quality to that of large towns and cities. The "fresh air" of such places, of which one hears so much and knows so little, is of the mythical sort, existing in the fancy of enthusiastic lovers of the country; the real article needlessly proving more often a bane than boon.

It is not an uncommon experience in many favorite places of rural resort, during certain seasons of the year, for the population of whole districts to be more or less afflicted with fever-and-ague, engendered by the malarious exhalations of a neighboring marsh—poetically termed a "lake," but which is practically nothing but a frog pond! The residents of such localities will usually stoutly deny the presence of the offence; and like the patient whom pride compels to conceal an unpleasant disease, even from the knowledge of his medical adviser, they will strangely insist that the malarial pit is a pool of the purest water! If

"A rose by any other name would smell as sweet,"

surely, a marsh by any other designation would be equally infectious. It is strangely interesting to observe with what subtle ingenuity many honest, reputable people will sometimes exercise in attempting to reason away the presence of evils which are identified with their immediate material interests! Of all the many districts where marsh miasm notoriously abounds, it may be safely affirmed that few responsible residents among them could be induced to make public confession of the fact. Every truth-telling, church-going, land-owner of

them would continue to shake thrice a week until the day of doom before he would admit that ague miasm infected the air of *his* dominions! The fever among them will take all manner of names but the right one—bilious, remitting, synochal; nervous, relapsing, periodic; rheumatic, gastric, epidemic, etc.; and if the medical adviser presumes to intimate the idea of ague, malaria, or, intermittent, he does so at the peril of an ignominious discharge, unless, indeed, he be adroit enough to connect the true cause of the periodic malady with some other and remote township. We write from experience, having at one time an extensive country ride, in one of the inland towns not very remote from New York; and having been frequently implored not to mention the word *ague* in ague-stricken communities, as it would instantly depopulate the boarding-houses, and ruin the livery stables! Such is a little of the perverse and short-sighted avarice of mankind.

Malarial fever has from time immemorial needlessly been the scourge of the world. Between the disease and its treatment more people have been put *hors du combat* than from war, pestilence or famine. In the old country the name of Richard Talbot, the celebrated quack, was made famous for the wide success with which he treated the malady. * In this country, even in many of the thickly settled townships, the disease continues to war upon the public health, and to seriously check productive industry. The health of the country population is not only depressed in consequence, but that of the city population is largely affected by it also. The evil is augmented by the custom, now so popular among city folk, of

* Talbot's career is curious. Beginning life as an apothecary apprentice about the middle of the seventeenth century, he achieved an enormous reputation and an immense wealth by the bold use of Peruvian bark in the treatment of fever and ague. His celebrity was as great in Paris as in London. He cured the Dauphin and Dauphiness of Louis XIV., and received 2,000 louis d'or for the secret, besides an annual pension of 2,000 francs. "Having become rich," says Russell, "Talbot became respectable. He was knighted, and, as Sir Richard, received the honors of a splendid funeral, and a monument at Cambridge." The profession disliked him, ostensibly for his quackery—really for his superior success—'Lister calls him 'a miserable quack'; Gideon Harvey, 'a debauched apothecary's apprentice.'"—*Russell's History and Heroes of Medicine*, p. 255.

resorting to the country for a brief sojourn, for change and recreation in hot weather. It surely is no secret that many of such people return to the city in worse health than they left it, having absorbed into their systems malarial elements most difficult to get rid of, and which has laid the foundation in very many instances of permanent ill health, and—endless doctor's bills.

It would be needless to enlarge upon an evil so obviously and widely known, if it were not, at the same time, one whose existence is so completely under the responsibility of the social state. With proper drainage, easily effected at small cost, the rural districts could be relieved of every vestige of those malarial causes which now involve the physical welfare of so many people, and which so seriously compromise the material prosperity of the state. Such causes do in reality come as clearly within the scope of the common law as those of any other class which morbidly affect the public good, such, for example, as the approach of an infected ship; the sale of diseased food, the presence of offal and its allied nuisances; the retention of filth; the exposure of cases of contagious diseases, the sale of poisons and alcoholic liquors; the presence of gambling hells and houses of assignation; the criminal carelessness of public servants, etc., etc. If an individual fall into an unguarded pit in the public highway and suffers injury thereby, he has a just cause of grievance against the public in whose jurisdiction the accident occurs, and may collect money damages in a court of law. Is not his grievance equally just if he imbibe ague or typhus or other infection in consequence of an equally palpable neglect on the part of the public to remove the avoidable causes of such a calamity? The cases are clearly analogous, as we apprehend them, and the time will come when he who suffers any casualty from any obvious neglect of the public to fulfil its functions, be it marsh draining, or the removal of any other morbid cause no less than injuries by avoidable accidents on the public highway, will seek and find redress in the community where any such accident occurs.

It requires no super-human gift of discernment to trace the connection between the rate of mortality among the productive classes, and the material prosperity of

a nation. The real wealth of a state is embodied in the industry of its citizens; and the loss which a state incurs by the death or disability of a citizen is in direct proportion to the number of years which, by prudent care and foresight, could have been saved to productive industry. The loss, in dollars and cents, which the state suffers in the premature death or disablement of an able-bodied man is thus susceptible, as we have remarked on a previous page, of an approximate calculation. It is not essential to our purpose, however, to indulge in figures of that kind. Enough has already been advanced to call serious attention to a phase of public economy very commonly overlooked. The interest which the pecuniary importance of the subject awakened in the large utilitarian mind of England, upon the publication there of health statistics a few years since, did more for the introduction of rational measures to remove the evils of disease and indigency than centuries of inculcations of love for neighbor and sympathy with human suffering had done. We do not say this in any special depreciation of the morals of Englishmen or in derogation of the influence of Christianity. That people were moved to act in respect to the evils referred to by motives which ordinarily influence human nature, viz: self-interest. No ruling caste, or class, is ever led to redress the wrongs of another, from purely religious, or philanthropic considerations. It must have some vital, palpable, inspiring, self-interest involved, in order to enlist the requisite degree of thoughtful and earnest attention. The tables of mortality, which were calculated at first in the interest of financial transactions, associated with the business of Life Assurance, furnished that motive. They appealed directly to self-interest. They opened the eyes of the ruling class to the grave perils which the wretched condition of the poorer classes was involving them—drawing upon their surplus. Action in the matter, therefore, was not long delayed. In large towns boards of health were organized, and a system of health inspection established, whose object it was to prevent the evils of short lives—of overcrowded tenements, especially sleeping apartments; restrict the number of occupants of the same bed, at the same time; prevent undue accumulations of filth; and generally to com-

pel the more ignorant and dependent classes, and especially those who had their lives insured, to conform to the more obvious laws of health.* The general condition and habits of the poor and dependent classes were subjects of thorough investigation. And, as a result of it all, measures were recommended and finally partially instituted to improve, to some extent, the homes of the poor, by means of greater cleanliness and ventilation; the establishment of public baths; providing a better supply of water; and more adequate means of light, warmth, drainage, ventilation, etc. Sewages were more generally introduced in populous towns, and likewise drainage of marshes in the rural districts, to the great improvement of the public health, and general appreciation of human life. Indeed, so great is the reduction of the death-rate among all classes in England, in consequence of even an imperfect enforcement of sanitary reforms, that one wonders how an intelligent people could have remained so long so stupidly

* In the Commissioners' Report of 1844, on the health of towns and cities in England, it is expressly stated that in London, Nottingham, Liverpool, and other large cities and boroughs, whole families occupied one room (underground) and frequently, the same bed:—"A mother and her son, being an adult, sleep in the same bed. Grown up females and unmarried young men sleep in the same room. A man, his wife and his wife's sister, the latter being an adult, sleep together in the same bed"—Vol. i, p. 32.—In Nottingham, the commissioners report, that "Rooms of eleven feet square often contain families of four, five, or six, individuals, consisting not unfrequently of near-related adults of different sexes, who live and sleep promiscuously."—*Ibid.* p. 348. Liverpool has still some lodging-houses of the worst description, usually kept by Irishmen, and occupied mostly by migratory Irish, "vagrants and vagabonds of all descriptions. In every room of such houses, with the exception of the kitchen or cook-room, the floor is usually covered with bedsteads, each of which receives at night as many human beings as can be crowded into it; and this, too, without distinction of sex or regard to decency. But there are cellars, usually the double cellars I have described, which are used for the same purpose; and here the over-crowding is carried still further. * * * At night the floor of these cellars—often the bare earth—is covered with straw, and these lodgers—all who can afford to pay a penny for the accommodation—arrange themselves as best they may, until scarcely a single available inch of space is left unoccupied. In this way as many as thirty human beings, or more, are sometimes packed underground, each inhaling the poison generated by his neighbor, and presenting a picture, in miniature, of the Black Hole of Calcutta."—pp. 131, 132.

apathetic on a subject so vital ; and have braved the horrors of pestilence and plagues for centuries, without as much as thinking of the propriety of even "an ounce of prevention!"

The precise results of these sanitary reforms upon the average mortality of England and Wales are indicated in the following tables, calculated in 1870-1 :

Annual Rate of Mortality to 1,000 of the Population.

ENGLAND AND WALES.	Ten Years, 1861 to 1870.	1870.				1871.	
		QUARTERS ENDING				QUARTERS ENDING	
		March.	June.	Sept.	Dec.	March.	June.
Death rate per 1,000 . .	22.4	26.2	21.8	22.0	22.3	24.7	21.3*

According to these figures, the average duration of life in England and Wales is upwards of forty years, which is nearly twenty per cent. greater than it was thirty years ago, or the period when sanitary improvements were first initiated ; a vast saving of human life, to be ascribed solely to the beneficent influence of sanitary science. The table below contrasts the average duration of life in seven English towns in 1840, with that of 1871, and shows the improvement in the average longevity in each.

Average mortality of seven towns in 1840, compared with the average mortality of the same towns in 1871 :†

TOWNS.	1840. DEATHS.	1871. DEATHS.	GAIN.
Metropolis, . .	1 in 37.38	1 in 43.29	5.91 years.
Birmingham, .	" 36.79	" 43.10	6.31 "
Leeds, ...	" 36.73	" 43.10	6.37 "
Sheffield, . . .	" 32.92	" 39.84	6.92 "
Bristol, ...	" 32.38	" 52.35	19.97 "
Manchester, . .	" 29.64	" 35.58	5.84 "
Liverpool, . . .	" 38.75	" 29.85	1.10 "

* *Journal Statistical Soc.*, xxxii., p. 386.

† The mortality for 1840 is taken from the *First Ann. Report of the Health Comm.* London. 1844. Vol. 1, p. 125. That for 1871 is reckoned from mortuary tables in *Jour. Stat. Soc.*, vol. xxx., p. 387.

The figures for 1871 are based on the mortuary returns for the quarter ending July 1, one of the most favorable for health, in England, in the whole year. The exhibit is highly creditable to the advance and application of sanitary knowledge; and the improvement moreover is shared by all the towns in the United Kingdom, with a few exceptions. Liverpool seems, according to the above table, to be one of these, but for what reason is by no means quite clear. Its location is unexceptionably good for cleanliness and drainage; but, on the other hand, its population is more dense, and consists fully three-fourths of the working classes, or did in 1840, and the proportion of that class may have largely increased since.* Be that as it may, mortuary tables everywhere demonstrate that the public health is largely subject to conditions easily comprehended, and by means readily applied. If society exercised half the vigilance to suppress the causes of disease and infection she does to prevent the destruction of property by fire or other agencies; or the protection of her commerce, foreign or domestic, from dangers, even less under her control than disease; or in watching the course of storm and wind; establishing rapid transit and telegraphic communications; making Arctic explorations; studying eclipses, water-currents, tides, etc.; or in prosecuting public works, bridges, highways, docks, and general internal improvements; or in the conduct of the great financial and monetary interests of the country, disease would be almost as great a rarity in our midst as snow in midsummer.

The task which we would impose upon the state is by no means as difficult of execution as it at first sight appears to be. In fact it is being done every day to some extent, as the figures we have presented abundantly show. The need is a more just appreciation of the value of human life, and a more effi-

* Since this article was written, we have come into possession of mortuary returns of some of the principal English cities, for the week ending July 26th (1873), in which the death-rate of Liverpool is set down at 28 for 1,000 persons, or 2.80 per cent. This would make the average duration of life in that city 35.83 years—a very respectable improvement over that of 1843, to be ascribed to the achievements of sanitary reform.

cient organization of health boards, health inspectors, etc., and a more thorough discharge of their respective functions. The civil police, by perfect discipline and efficient organization, have succeeded in nearly banishing the crimes of theft, robbery and arson outside of Wall street and the American Congress. If life and health were of as much consequence, in the general estimation, as money, or the miserable spoils of office, it would be an easy matter to organize and equip an army of health police, clothed with powers as arbitrary to abate wrongs against the physical well being of the individual and the community, as have the civil police in arresting the lesser evils of street vagrants, drunkenness, private trespass, petty thieving, or highway robbery. The slow progress of civilized society in this direction has been due mainly to the uncertain latitude, in the mind of the devout and superstitious, of the line which separates man's responsibility from that of Providence. It is the natural tendency of such minds to refer all surprising and apparently occult phenomena to a divine agency, or to the infernal pranks of a demoniacal spirit. Unhappily, morbid phenomena, when extraordinary, have usually been classed in one or the other of those categories. Thus arose the custom of blindly referring to Providence, or to an evil genius, the visitations of disease and pestilence when their courses were marked by any considerable degree of virulence and fatality. Such senseless sentimentality must come to a speedy and an inglorious end. The reputation of Providence no less than science demands that all phenomena be put to the test of independent research and observation; and that all possible diligence be exercised by society no less than the individual, in abating all evils of whatever nature that offend against the welfare of the individual and afflict the social state.

ART II.—1. *Occasional Papers ; or, The Theory of Glaciers.*

By J. D. FORBES.

2. *Études sur les Glaciers.* By L. AGASSIZ. 1840.3. *The Forms of Water in Clouds and Rivers, Ice and Glaciers.* By JOHN TYNDALL, LL.D., F.R.S. London. 1872.

ACCORDING to the conclusions of geologists a few years ago, the primeval oceans of our globe were maintained by the radiation of heat from the internal fires of the earth, at a much higher temperature than at present. The greater dissolving powers of warm water, and the constant mechanical action of the water, kept in motion by the same causes which still move the ocean, would rapidly wear away the solid parts of the earth's crust, and transport the *débris* to other places. Now, whether the waters of the ocean were ever at a much higher temperature than at this time, or not, we know from observation that they are constantly producing changes in the external configuration of the earth; and we hence conclude that the same process has gone on in all ages of the world, ever since the ocean had an individual existence. Rivers have been no less potent in their influence in proportion to their extent; and even rains and snows have added their mite to the great changes which the earth's crust has undergone in past and present periods of terrestrial existence.

The slow revolutions which have been brought about on the surface of the globe, by the indirect influence of rain and snow, and especially the latter, are wonderful beyond our first conception. The melting of the snows which accumulate on the tops of the declivities of mountains, in the cold season of the year, below the line of perpetual congelation, and the rains which fall during the warm portion of the year, give rise to streams which wear away the hard material in their course, and carry to the valleys and the low lands large pieces of rock, which have been loosened by frosts and brought to a lower level by the force of gravity, and in this way they contribute to the change which is constantly taking place. Some-

times the sudden melting of large bodies of mountain snows produce floods which, in modern times, destroy much property, and otherwise affect the general conformation of the earth's surface to a considerable extent. But it is not of the rains which annually fall, nor of the snows which annually fall and melt, that we intend to speak at this time ; but rather of those vast accumulations of snow which find a resting place on the parts of mountains which lie *above* the line of perennial frosts, or which at some former epoch *did* rest there, and which were the sources of glaciers of greater or less extent.

The height of the snow line, or the line of perpetual congelation, above the level of the sea, varies with the distance from the equator. In Equatorial America it rises to an elevation of 15,000 or 16,000 feet ; but in the Swiss Alps the snow line descends as low as 8,500 feet, while the higher peaks of the Alpine chain attain an altitude of 12,000 to 15,000 feet above the level of the ocean. In those higher regions of the earth's surface, the snow accumulates from year to year, and if there were no counteracting causes, the frozen mass would add almost indefinitely to the altitude of Alpine summits. The great weight of these masses of snow presses out the air which the snow contains, from the lower portions, and this, with the aid of partial thawing and then freezing, gradually converts the mass into ice. The force of gravity slowly brings the whole down into the valleys between the peaks, thus producing *glaciers* or *rivers of ice*. Since the snow falls periodically, the accumulated mass becomes stratified. This stratification extends to the upper part of the glacier, which is here composed of a coarse granular snow called *névé* by the French. The lowest part of the glacier is composed of solid ice. These glaciers are not limited to the regions which lie above the line of perpetual snow, but they extend far down below that line, into a warmer climate, even so as to encroach on fields of grain.

The appearance presented by glaciers is full of picturesque beauty, and even sublimity. Where the ice-stream descends a steep slope or precipice, an icy cascade is formed, the ice being broken by the immense strain to which it is subject, and

it thus assumes beautiful forms, with peaks and pinnacles which project above the general level. "If it were possible," says Mr. Higgins, "to imagine the ocean ruffled by a gentle breeze, and consolidated, or a boundless mirror of ice, the reader might have some idea of the forms in which a glacier may be presented to the eye of the traveller; but nothing less than a view can give him a conception of the terrific scene, or the amazement, if not the terror, with which the appearance is first beheld. The traveller, as he passes over the mighty frozen ocean, may well imagine that he feels the billows swelling beneath his feet; he stands in a new world, surrounded by new scenes; no living object is there, and no sound except his own feeble voice, and the detonations of the ice as it tumbles in fragments down the yawning precipice; not a flower or a tree can be seen, except the lowly pine, which seems to be left as though to mourn over the grave of nature." This description applies when the day is cold, and the feeble influence of the sun's rays is unable to loosen the little streams from their icy fetters. During a day of mild rain, however, or of hot sunshine, innumerable little streams of clear water flow in icy channels on the surface of the glaciers, but at the going-down of the sun these gradually freeze up, so that at night all is hushed and silent.

The little streams which flow in the daytime are often precipitated into deep fissures* in the ice, and thus, with springs, contribute to the formation of torrents, which flow in tunnels at the bottom of the glaciers, for miles, and finally issue at their extremities from beneath beautiful caverns or arches. Thus, some rivers, like the Rhone, have their source in glaciers. Such is a general description of glaciers, as they appear to the eye of the traveller.

The Swiss glaciers have been more thoroughly studied than any others which are known. The amount of surface on the Alps covered with ice is more than fifteen hundred square miles, and its thickness varies from eighty to six hundred

* These fissures are sometimes twenty, thirty, and even a hundred feet in width.

feet. There are thirty-four glaciers which border the snowy region of Mont Blanc, and ninety-five square miles of snow and ice cover that mountain.* The crests and higher parts of the Alps, which are often vast table lands, or plateaux, containing from one hundred to three hundred square miles, are covered with continued masses of ice of considerable thickness, and through this the lofty peaks rear their summits to considerable elevations above. These plateaux are called seas of ice (*mers de glace*), which form the higher parts of the glaciers. The length of the Swiss glaciers is sometimes between twenty and thirty miles; and their width in the middle portion occasionally two or three, with a thickness of six hundred feet.†

At the extremity of a glacier there is usually a heap or mound of rocky fragment, of sizes varying from fine material to large pieces, and such an accumulation is called a *terminal moraine*. Along the margins of the glaciers, and sometimes in the middle portion, there are ridges, or continuous heaps, of similar material; and these are called *lateral* and *medial moraines*. These moraines are formed by the wearing away and the breaking off of the rocks which lie along the edges of the ice-streams. The medial moraines are produced by ice-streams joining together, as one stream of water flows into another, and thus becomes a branch. The marginal moraines of the main stream and its branch join together, and thus form a moraine in the middle portion of the consolidated glacier.‡ We may hence conclude that any glacier which has one or more medial moraines, has one or more branches. The motion of the glaciers (of which more hereafter) causes the existence of *continuous* ridges, or lateral and medial moraines.

Since these moraines—and especially the terminal moraines which are the accumulation, as a general thing, of all the others—are not deposited in running water, the material of which they are composed is not sorted according to size and specific gravity, as is the case where the water is in motion, and hence there is no stratification in their structure.

* Somerville's *Phys. Geog.*, p. 53. † Lyell's *Prin. Geol.*, vol. i., p. 365.

‡ Tyndall's *Forms of Water*, p. 55. The medial moraines were first explained by M. Agassiz.—*Études sur les Glaciers*.

Glaciers exist in various parts of the temperate and the frigid zones, but they are especially numerous in the mountains of Switzerland. Along the central parts of the Alps, from Mont Blanc on the one hand, to the frontiers of Tyrol on the other, there are counted more than four hundred glaciers, great and small, some of the latter being no more than three miles in length, while some of the former, as we have said, are more than twenty. It is estimated that more than a thousand square miles of surface in Switzerland are covered with glacier ice, which forms inexhaustible reservoirs from which some of the principal rivers of Europe are supplied.

The Pyrenees mountains and the mountains of Norway have their glaciers, and in South America, in the Patagonian Andes, they exist, and in the Andes of Chili they come down to the sea, and give origin to icebergs 20° nearer the equator than in Europe.*

The present influence of glaciers on the surface of the earth is very limited as compared with what it formerly was, since in all temperate latitudes, except in very limited and elevated regions, glaciers have entirely passed away. Perhaps the best existing representative of the former ice-covered earth is found in the interior and the northern parts of Greenland. According to the observations of Dr. Rink, of Copenhagen, who spent several years in Greenland, that country is largely covered with an enormous ice crust, which attains in places a thickness of one or two thousand feet, and this great body of ice is gradually moving from the interior of the continent towards the western coast.† These vast icy plains of the interior abut upon the fiords, and by their motion they gradually encroach on them. Several of the inlets are completely filled, and some of them have the ice extending considerably out into the ocean, forming promontories of no small height. According to the traditions of the Greenlanders, bays now inaccessible were formerly navigated, and others which are now almost wholly obliterated formerly extended from sea to sea.‡ When

* *Darwin's Journal*, p. 283.

† *Lyell's Antiquity of Man*, p. 235, and *Smithsonian Report for 1867*, p. 346.

‡ See *Crantz's History of Greenland*, vol. i., pp. 5, 6.

we consider that the open ocean is the only barrier in those frozen regions that can effectually put a stop to the further extension of the ice, we may conclude that there is some probability in the traditional knowledge of the inhabitants.

Where the glacier ice comes down to the sea the waves slowly wear away and undermine it as it gradually moves seaward, and when the unsupported parts above the water become too heavy for the cohesion of the particles, they break off and plunge into the sea, thus forming those numerous icebergs so often met with in the northern ocean. The magnitude and appearance of these icebergs are exceedingly variable. Some of them have been observed aground in three hundred fathoms of water, and since no more than about one-seventh or one-eighth of the weight of the mass * remains above water, it is concluded that the whole thickness, or height, is not far from two thousand feet. Icebergs having a height above the water from a hundred to a hundred and fifty feet, are quite common; and since the absolute thickness is nearly a thousand feet, and the circumference in some cases a mile, the weight has been estimated at forty or fifty million tons. But when we recollect that these icebergs have already been floating for some time in the open sea, and exposed to the wasting effects of the waves and currents, we readily conclude that their original size when they were first separated from the parent glacier must have been vastly greater. These ice mountains are carried south by the currents of the ocean, which set in from the north through Baffin's Bay, and they float as far as the latitude of the Azores. Captain Scoresby counted five hundred of these bergs in latitude 69° and 70° N., which rose above the surface of the ocean at heights varying from one hundred to two hundred feet, and measuring in circumference from a few yards to a mile.†

During the gradual decay of the icebergs, they often assume strange and fantastic forms, "more like the vision of an eastern poet than the works of nature in an arctic land. Some

* See Scoresby's *Arctic Regions*, vol. i., p. 234.
in 1822, p. 233.

† Scoresby's *Voyage*

, churches, or old castles, with spires, towers, arched gateways, fashioned of the purest when the sun shines on them, of the purest silver. As like ships, trees, animals, or human beings, re-exquisite works of Grecian artists. Their colors extremely beautiful, some brilliant as burnished silver, reflecting all the various hues of the rainbow, bright blue, and orange being the prevailing tints." It is only when at a distance that one can contemplate with pleasure the appearance which they present, for when near by almost the only feeling which they inspire, is that of terror. The Greenlanders believe that a loud sound, or the splashing of the oars, sometimes loosen a fragment from an iceberg, and hence when they are obliged to pass near them, they move along in solemn silence till the danger is over, when they burst out into a shout of thankfulness and joy.* It is possible that pieces of ice may sometimes be in such conditions of unstable equilibrium, that the vibrations of the atmosphere caused by a sound will cause them to fall.

To find existing glaciers, however, we need not leave our own country. Recent explorations in the states and territories of the far west, have revealed the existence of glaciers in the mountains of the Pacific slope, of a magnitude corresponding with some of the larger of the Swiss Alps.

In September, 1870, Mr. Clarence King, U. S. geologist, in connection with others, visited Mt. Shasta, in northern California, for the purpose of making a detailed survey of the lava streams, which flow eastward from that peak. They climbed to the top of the lesser Shasta, a conical secondary crater which juts out from the main mass of the mountain on its northwest side. On looking down into a deep gorge, between the lesser and the greater Shasta, they saw directly beneath them a fine glacier, which commenced almost at the very crest of the main mountain, and flowed toward the smaller mountain, curving around the circular base of the

* See Crantz's *Hist.*, vol. i., p. 24. Scoresby's *Arctic Regions*, vol. i., pp. 23, 135. Graah's *Greenland*, pp. 93, 104.

we consider that the open ocean is the only barrier in those frozen regions that can effectually put a stop to the further extension of the ice, we may conclude that there is some probability in the traditional knowledge of the inhabitants.

Where the glacier ice comes down to the sea the waves slowly wear away and undermine it as it gradually moves seaward, and when the unsupported parts above the water become too heavy for the cohesion of the particles, they break off and plunge into the sea, thus forming these numerous icebergs so often met with in the northern ocean. The magnitude and appearance of these icebergs are exceedingly variable. Some of them have been observed aground in three hundred fathoms of water, and since no more than about one-seventh or one-eighth of the weight of the mass * remains above water, it is concluded that the whole thickness, or height, is not far from two thousand feet. Icebergs having a height above the water from a hundred to a hundred and fifty feet, are quite common; and since the absolute thickness is nearly a thousand feet, and the circumference in some cases a mile, the weight has been estimated at forty or fifty million tons. But when we recollect that these icebergs have already been floating for some time in the open sea, and exposed to the wasting effects of the waves and currents, we readily conclude that their original size when they were first separated from the parent glacier must have been vastly greater. These ice mountains are carried south by the currents of the ocean, which set in from the north through Baffin's Bay, and they float as far as the latitude of the Azores. Captain Scoresby counted five hundred of these bergs in latitude 69° and 70° N., which rose above the surface of the ocean at heights varying from one hundred to two hundred feet, and measuring in circumference from a few yards to a mile.†

During the gradual decay of the icebergs, they often assume strange and fantastic forms, "more like the vision of an eastern poet than the works of nature in an arctic land. Some

* See Scoresby's *Arctic Regions*, vol. i., p. 234.
in 1822, p. 233.

† Scoresby's *Voyage*

cone. Its length was not less than three miles, with a width of about 4,000 feet, "the surface here and there terribly broken in 'cascades,' and presenting all the characteristic features of similar glaciers elsewhere." The region of the terminal moraine was more extended than is usual in the Alps. The great accumulation of rubbish upon the end of the glacier, indicated a much greater thickness of the ice in former days. They afterwards climbed to the extreme summit of Mt. Shasta (14,440 feet), and from the northern edge of a prominent spur there were visible a system of three considerable glaciers, the largest one being about four and a half miles in length, and two or three miles in width. Former observers had ascended the mountain from the south side, where no glaciers exist, and this is the reason why their discovery had not been previously made. A further examination revealed the fact that, without much doubt, the scattered snow-fields, which remain in the months of August and September, are but the remnants of pre-existing glaciers. They are found in the region of the former great *névé*, but they extend down into what was the zone of glacier movement.

On the eastern side, in a deep cañon, there was found a considerable glacier, which has its origin in a broad *névé*, which stretches to the very summit of the peak. The angle of the glacier, considering its whole extent, is very great, being not less than 28° . "It is one series of cascades, the whole front of the ice being crevassed in the most interesting manner. Near the lower end, divided by a boss of lava, it forks into two distinct bodies, one ending in an abrupt, rounded face, no less than nine hundred feet in height. Below this the other branch extends down the cañon for a mile and a half, covered throughout almost this entire length with loads of stones which are constantly falling in showers from the cañon walls on either side." Several other glaciers were found in other parts of the mountain. One of them is crevassed in a series of immense chasms, some of them two thousand feet long, and from thirty to fifty feet wide. Snow bridges, like such as exist in the Swiss glaciers, are the only means of crossing these chasms; and the reader will at once conclude that the

examination of these glaciers is attended with considerable danger. All the north face of the mountain was observed to be covered with a great body of ice, interrupted by a few sharp lava ridges, which project above the general level. "The veins of blue ice, the planes of stratification, were distinctly observed, but neither *moulins** nor regular dirt-bands are present. Numerous streams, however, flow over the surface of the ice, but they happen to pour into crevasses which are at present quite wide."

The marks of a former extensive system of glaciers were everywhere visible, the clearly-defined moraines of which forming one of the most interesting features of the country. Almost the whole topography of the lower part of the cone is modified by the ancient deposition of glacier material. Upon the southern or snowless side of the mountain, at an altitude of about 8,000 feet above the ocean, there exists a great "plateau-like terrace," having a width of 2,500 or 3,000 feet, and extending around one-half of the cone, and composed wholly of moraine material.†

In 1870, Mr. S. F. Emmons and Mr. A. D. Wilson discovered some glaciers on Mt. Rainier, or Tachoma. The summit of this mountain is formed by three peaks, a southern, an eastern, and a northwestern, the eastern being the highest. The two others are distant from this a mile and a half or two miles, with deep valleys between. The eastern peak is a circular crater, whose sides for sixty feet down are bare, but below this limit they are covered with a *névé*, with a slope of from 28° to 31°. This *névé* extends through a vertical distance of 2,000 feet below the crater rim, "an immense sheet of white granular ice, having the general form of the mountain surface, and broken only by long transverse crevasses, one of those observed being from one to two miles in length; it is then divided up by the several jutting rock-masses, or shoulder of the mountain, into the Nisqually, Cowlitz and White River glaciers, falling in distinct ice cascades for about 3,000 feet at

* For an interesting account of *moulins*, or glaciers mills, dirt-bands and crevasses, see Tyndall's *Forms of Water*, sections 44, 36 and 48.

† See *American Journal of Science*, 3d series, vol. i., pp. 157-61.

very steep angles, which sometimes approach the perpendicular. From the foot of these cascades flow the glaciers proper, at a more gentle angle, growing narrower and sinking deeper into the mountain as they descend. From the intervening spurs, which slope even more gradually, they receive many tributary glaciers, while some of these secondary glaciers form independent streams, which only join the main river many miles below the end of the glaciers." Of the many glaciers here discovered, the main White River glacier is the largest of the whole, being nearly, or quite, ten miles in length, and having a width of four or five miles in the broadest part, and narrowing down towards its extremity to about a mile and a half.

The great eroding power of glacial ice is well illustrated in this glacier, for it appears "to have cut down, and carried away, on the northeastern side of the mountain, fully a third of its mass." The thickness of the rock cut away, as shown by the walls on either side, was estimated at rather more than a mile. The thickness of the ice may probably be reckoned in thousands of feet. Some of the medial moraines had peaks in them nearly a hundred feet high. Some *moulins* were seen, a double one of which was visited where two brooks poured into two circular wells each about ten feet in diameter, joined together at the surface, but separated below. They seemed to be of great depth, since stones thrown in made no noise that was audible.

Ten large glaciers were observed, and five or six more were hidden by the mountain, all of which proceeded from an isolated peak. These, as is evident, must form a remarkable system, comparable, even, to the more celebrated and better known ones of Europe. The existence of glacier motions was quite evident.*

Besides the glaciers to which we have referred, others were discovered by Mr. Arnold Hague, which have their origin in Mount Hood, in the Cascade range of Oregon. The crater of this extinct volcano is about one-half a mile wide from east

* *Am. Jour. of Sci.* [3], vol. i., pp. 161-5.

to west. The basin is partly filled with snow and ice, the inside of the crater-wall rising above them to the height of 450 feet, while on the outer side it falls off abruptly for 2,000 feet. The rim of the crater, or the thickness of the wall, is very narrow, not more than two feet in some places. Three distinct glaciers—the White, the Sandy, and the Little Sandy River glaciers—have their origin in the basin to which we have referred.

Without describing these glaciers in detail, we may remark that, in the White River glacier, transverse crevasses are of frequent occurrence, running nearly parallel with one another. Generally, however, they are quite narrow. "One broad chasin presented clean, sharply-cut vertical sides, for nearly two hundred feet in depth, of clear, deep blue ice. Marginal crevasses, ice-caves, and caverns occur; many of the latter are very beautiful, and afford fine opportunities for the study of the laminated and veined structure of glacial ice." Since there are no tributary glaciers, no medial moraines exist, though lateral and terminal moraines are well-marked and extensive. The grinding effects of the glaciers were very evident, since the river is heavily charged with a light gray trachytic sand. The marks of extinct glacier systems of great extent were plainly visible.*

In the latter part of the year 1871, John Muir discovered a "living glacier" in the Sierras of California. On Mount McClure he found a glacier half a mile long and the width about the same. Others exist on Mount Lyell and on Mount Hoffman.†

We have already referred to the existence of glacier motion. It appears that M. Agassiz‡ was the first to commence, in connection with a skilful engineer, M. Escher von der Linth, a series of exact measurements, in 1841, to ascertain the laws of glacier motion. Contrary to what was expected, he soon discovered that the motion of the glacier was slower at the

* *Am. Jour. of Sci.* [3], vol. i., pp. 165-7.
vol. v., pp. 69-71.

† See *Am. Jour. Sci.* [3],

‡ *Système Glaciaire*, by MM. Agassiz, Guyot, and Desor, pp. 436-445.

sides than in the middle, and more rapid in the central portions than at the extremity. Professor J. D. Forbes visited Agassiz while the latter was engaged in his measurements, and he soon after undertook an independent series of similar measurements, which enabled him to arrive at like results with Agassiz. He found the laws of glacier motion about the same as those governing the course of rivers—more rapid in the middle parts than at the sides, and more rapid at the top than at the bottom.

M. Agassiz performed his experiments on glacier motion on the Unteraar glacier, and Prof. Forbes his on the Mer de Glace. To determine the motion of the Aletsch glacier, M. Escher von Linth, drove wooden stakes in the ice, but the rapid melting of the ice soon caused them to fall. To prevent this result, M. Agassiz carried boring tools to the Hôtel des Neuchâtelois, as the hut was called in which he and his companions took shelter. With these instruments he pierced the Unteraar glacier at six different places, to the depth of ten feet, in a straight line across the ice. In the holes piles were so firmly driven and fixed that they remained a year, and in 1842 the displacements of all of them were determined. Commencing at one side and continuing across to the other side, the motion of each was as follows: 160, 225, 269, 245, 210, and 125 feet. Thus we see the more rapid motion of the central stakes. Subsequently M. Agassiz employed the theodolite, by means of which the motion of the glacier can be detected within a short space of time.*

The same year in which M. Agassiz employed the theodolite on the Unteraar glacier, Professor Forbes employed it on the Mer de Glace. He showed that with a correctly adjusted theodolite the motion of the glacier can be measured from day to day; and he affirmed that it may even be determined from hour to hour. He triangulated the Mer de Glace, and made an excellent map of it.†

In 1857 Professor Tyndall reexamined the motion of the Mer de Glace, and he arrived at some very important conclu-

* See *Système Glaciaire*.

† See Forbes' *Travels in the Alps*.

sions in relation to glacier motion. He found that where the ice-stream curves, the line of swiftest motion is *not* in the centre of the glacier, but it lies nearer the convex side of it. He gives the law in the following words: * "When a glacier moves through a sinuous valley, the levers of the point of maximum motion does not coincide with the centre of the glacier, but, on the contrary, always lies on the convex side of the central line. The locus is therefore a curved line more deeply sinuous than the valley itself, and crosses the axis of the glacier at each point of contrary flexure." We thus have the very important conclusion, that the river of ice follows the same general law as the river of water. †

The cause of glacier motion has given rise to much discussion, and although able minds have devoted much attention to the subject, according to one hypothesis or another, yet the matter does not seem to be entirely settled to the complete satisfaction of all enquirers. Since the motion of glaciers, as a whole, is down hill and not in the reverse direction, we may conclude that the primary cause of the phenomenon is the force of gravity; and the question that remains to be settled, is *how* the force of gravity can produce the motion when the form of the glaciers and their general physical condition are considered.

Since water expands when it freezes, this is the cause of glacier motion, according to the views of Scheuchzer, a celebrated naturalist of Zurich, who visited the Swiss glaciers in 1705. According to him the water in the fissures of the glaciers, freezes, and by its great expansive force it urges the ice, on the lower side, along. This theory is not without some plausibility; and many years subsequently this theory was more completely worked out by M. Charpentier, and it was long known as "Charpentier's Dilatation Theory." M. Agassiz at first adopted this theory, but he subsequently proved that the motion of glacier cold is untenable, and the theory has generally been abandoned.

* *Forms of Water*, section 25.

† For a somewhat detailed account of the motions of glaciers and their measurement, see Tyndall's *Forms of Water*.

The "Sliding Theory" was proposed in 1760 by Altmann and Grüner. According to this, glaciers move by sliding over their beds. Many years afterwards M. de Saussure revived it, and it has been called "De Saussure's Theory."* But the description which we have given of glacier motion, and the laws which govern it, would naturally lead one to the conclusion that glacier ice is viscous, or plastic, since we cannot at first see how *solid* ice could be squeezed up and forced through a narrower passage between the rocks. M. Bordier, of Geneva, in a book published in 1773, suggested the notion of plasticity in glacier ice.† For years this suggestion was unheeded. Rendu, a Catholic priest, proposed anew the theory of plasticity, and being a man of an acute and powerful mind, he developed the theory with great skill. In 1841 he laid before the Royal Academy of Sciences of Savoy, his theory of glaciers.

It was Professor James D. Forbes, however, who more thoroughly developed the theory of Bordier. According to his view, a glacier is a semi-fluid or viscous body, and it is urged down slopes of certain inclination, by the natural pressure of its parts, or the force of gravity. Our every day experience teaches us, however, quite the contrary of the idea of viscosity—ice appears to be solid, hard, brittle. Some other considerations, therefore, require to be introduced, before we can account for the observed motion of glaciers. The resistance to the motion of the ice by particles, or its shearing-force, must be overcome in some way. Canon Moseley has shown that the shearing-force of ice is about seventy-five pounds to the square inch of under surface, and that this must be reduced by some power to about one and a third pounds to the square inch. That is, in order that a glacier may be able to move according to the laws which regulate the motion of a river, as we have seen that it does—differentially, or particle by particle—the force which binds the ice together in a solid body must be temporarily destroyed, or counteracted by some other force: or the shearing-force must be reduced to the

* *Forms of Water*, p. 156.

† *Id.*, p. 157.

fortieth part, at least, of what it actually is. The question now is, what power is capable of doing this, and yet leave the ice in the solid state, at least to all appearance?

That solar heat has some influence on the motion of glaciers, is evident from the fact that the winter motion is considerably less than the summer motion. We have found no measurements that give us the spring and fall rates of motion. According to Professor Tyndall's measurements, the motion of the Mer de Glace near Montanvert, in the summer, near its middle parts, is about twenty-five inches in twenty-four hours; * while in winter the motion at the same place is only about sixteen or seventeen inches in twenty-four hours. † Thus the winter motion is no more than two-thirds of the summer motion. According to Principal Forbes' measurements the motion in the night is about the same as in the day-time.

Mr. J. Croll, of the Geological Survey of Scotland, has given an explanation of the manner in which solar heat assists the glacier to descend. ‡ According to this author the motion of the glacier is *molecular*. "The ice descends molecule by molecule. The ice of the glacier is in the hard crystalline state, but it does not descend in this state. Gravitation is a constantly acting force; if a particle of the ice lose its shearing force, though but for the moment, it will descend by its weight alone. But a particle of the ice will lose its shearing force for a moment if the particle loses its crystalline state for the moment. The passage of the heat through the ice whether by conduction or by radiation, in all probability, is a molecular process; that is, the form of energy termed heat is transmitted from molecule to molecule of the ice." As the heat passes through each particle, it is in a different state from what it was previous to the moment when the heat entered it, and also immediately after the heat has left it. If the energy of the heat is sufficient to convert the particle into the liquid state, the fever of gravity will cause the glacier to move. Mr.

* *Forms of Water*, p. 69.

† *Id.*, p. 93.

‡ *Philosophical Magazine*, for September, 1870. *Am. Jour. Science*, January, 1871, p. 65.

Oroll rather favors the idea that the particle is, for the moment, liquid. There is some plausibility in this explanation, but the question seems to be rather more complicated than this solution would seem to imply. The fact that the particles of ice are subject to great pressure, quite evidently, judging from certain experiments, has something to do with their motion.

According to some experiments on the crushing of ice, by Canon Mosely,* he arrives at the conclusion that if a glacier is over 710 feet in thickness, the under surface of the ice must be crushed by the incumbent weight. Professor Philips experiment, however, led to the conclusion that the ice might extend to 1,000 or 1,500 feet in thickness, after which, if this number was exceeded, the ice would lose its solidity. Mr. King judged the ice, in one of the glaciers of Mt. Shasta, to be at least "from eighteen to twenty-five hundred feet" thick. The Humboldt glacier, in the north of Greenland, has a thickness, according to Dr. Kane, of more than 2,000 feet; and Dr. Hayes saw icebergs (that is, pieces of glaciers) in Baffin's Bay, aground in half a mile of water. We may, hence, conclude that it is possible for ice to exist as ice, and yet have a thickness of two thousand feet or more. But according to the experiments to which we have referred, ice formed under a pressure of 1,000 feet of ice, would be crushed under a pressure of 2,000 feet of ice. But being crushed it would immediately resolidify from the property of regelation, of which more presently. If this crushing took place suddenly, the solidity of the ice would not be continuous; but if the increase of pressure were gradually applied, the change in the nature of the solidity would take place as gradually. We may hence infer that the glacier ice—which is subject to immense pressure from the accumulation of snow on the tops and sides of mountains where glaciers exist, and the changes in the form of the valleys through which glaciers pass—is able to accommodate itself to the changes of form required of it. That is, it obeys the laws of the forces which act upon it: which are, as we have seen, the same as those which act upon

* *Phil. Mag.* for January, 1870.

rivers ; at least, the phenomena which glaciers and rivers present, very closely resemble one another. It seems highly probable that if the present state of mathematical analysis would enable us to treat the problem of the motion of glaciers by means of it—taking into consideration pressure, the force of gravity, heat and friction—the results to which we should arrive would closely correspond with observed appearances. The disturbing causes are so great and so numerous—the *perturbations* so large—the plain problem gives results that are scarcely approximate.

It has been satisfactorily proved that the freezing point of water is lowered by pressure ; and Professor James Thomson has proved that ice can be liquified by pressure. Professor Mousson has also been able to liquify large masses of ice by the force of a hydraulic press. But there is still another element which is not usually considered, the *heat* developed by the pressure to which the ice is subject ; that is, the mechanical work of the force of gravity in its tendency to urge the ice from a higher to a lower level, tends toward the liquifaction of ice.

Some experiments on the physical properties of ice, by Mr. John Aitkin, have a bearing on the problem of glacier motion. It was noticed that the same water, after being frozen and melted several times, finally burst the tube in which it was frozen. For the first two or three times the water was frozen, the resulting ice possessed a certain degree of viscosity so that it could adapt itself to the shape of the tube. The air contained in the ice rendered it apparently viscous, at least it enabled it to adapt itself to the form of the tube in which it was frozen. The continued repetition of the freezing process, deprived the ice of air which it at first contained, and with it of its viscosity. To test the truth of this explanation, he dissolved a large quantity of air in a glass tube of water, two-fifths of an inch in diameter, and then froze it. The ice beams thus formed (twelve inches long) were taken from the tubes and placed upon props, eight and a half inches apart, and a one-pound weight suspended from the centre. The beams began to bend at once, and continued to do so as long as the

weight was left on them. This would seem to prove the viscosity of ice of this character. He next formed some ice as nearly resembling glacier ice as he could, and the beams so formed were more easily bent than the others. The temperature of the experiments was that of three degrees Fahrenheit below the freezing point. The lower the temperature the more slowly the ice-beams bent.

He afterwards attempted to make ice rings of bars of ice one-fifth of an inch in diameter. The ice yielded to the pressure for a time without breaking, but at first he could not succeed in forming any rings. By reasoning upon the matter he concluded that by allowing the ice a little time to resolidify, or regain its natural structure, at proper intervals during the bending, he could form the rings, and in this way he succeeded. "These conditions," says he, "of alternate rest and pressure are, in all probability, those which exist in glaciers. After pressure has acted at one part of the glacier, bending takes place, so relieving the ice at that part from the pressure which comes to bear on another part of the glacier, and before the pressure again comes to bear on the first part, its strength and plasticity or viscosity has been restored by rest."* To sum up, then, we may conclude that the motion of glaciers is due to various causes, among which we may enumerate heat, pressure, the viscosity of ice, the sliding of the ice over its channel, where it must have a tendency to melt; and possibly the old dilatation theory explains something in this motion. In all cases of melting from pressure the principle of regelation,† first noticed by Professor Farady, comes into action. The same causes which move a glacier to-day, must have moved them in all ages of their existence.

We have now given the reader some account of existing glaciers, their observed motions, and the causes of those motions so far as they are known, but of the influence of glaciers we have said but little, nor have we more than occasionally referred to extinct glaciers, or such as once existed and are

* *Nature*, Feb. 13, 1873. *Am. Jour. Sci.* [3], vol. v., pp. 305—7.

† See Tyn. *Forms of Water*.

now passed away, leaving behind them unmistakable evidence of what they once were, and of the extensive modification which they were able to produce in the surface features of the earth. Just how near the tropical regions of our globe they once extended, we are not able to say, for those regions have not been so thoroughly examined as the temperate latitudes. It may yet be found that they have left traces of a feeble if not a vigorous existence, where at present it is not supposed that they extended.

M. Agassiz found, during the Hasler expedition in 1872,* not only numerous existing glaciers in the southern portion of South America, but abundant evidence of pre-existing glaciers of wide extent, which have grooved, scratched, and polished the rocks, transported boulders, ground down pieces of rocks to pebble size, and in short they have produced the various phenomena which are known to be due to the motion and the mechanical action of glaciers. The great glaciers during the glacial period proper, moved, in the southern part of South America, from south to north according to the observations of Agassiz.† Glacial phenomena extend as far north as the parallel of 37°.

Glaciers once existed in England, Scotland, Wales, and Ireland, and their phenomena have been somewhat carefully traced by geologists. A little farther north, in Iceland, glaciers still exist. Those which now exist in the mountains of the Scandinavian peninsula ‡ are only the remains of extensive seas of ice which covered the country as Greenland is now covered.

At the beginning of the quaternary period, the European continent, though of less extent than at present, was wrapped in a shroud of snow, and closely resembled the present aspect of the polar regions. Enormous glaciers covered Iceland, Scotland, and Scandinavia, and the valleys of the Carpathian mountains, the Balkan, the Apennines, and the Pyrenees,

* See his letter to Prof. Peirce, published in the N. Y. Semi-weekly *Tribune* of July 2, 1872. † *Am. Jour. Sci.* [3], vol. iv., p 135.

‡ *La Nèze de Jostedal et ses Glaciers*, par C. de Seve. Christiania, 1870.

were filled to their summits with ice. In middle Europe, on both sides of the Alps, in the Vosges, the Black Forest, and in other great mountain ranges of the continent, erratic blocks rolled pebbles, grooved and polished rocks, tell us of the former action of glaciers, where at present they cannot exist. The ancient glacier of the Rhone, the boulders carried by which were traced by Professor Guyot from the Juras across the plains to their sources in the Alps,* has recently been traced by MM. Falson and Chantre, all the way from Lake Geneva southwestward to Lyons, passing by Seillon, Châtillon Ars and Sattonay, and even to Vienne in Dauphiny, some ten miles farther south.†

When we consider the hardness of ice, and its power to resist impressions, we can easily imagine that a mass of it from a mile to two or three miles wide, with a thickness of six hundred or a thousand feet, constantly in motion, must not only wear away the rocks beneath it and at its sides, but when we recollect that a vast amount of pieces of rock of angular shape, and small stones, are frozen in the ice, we see that the rocks over which the glacier moves, will be scratched, and these scratches will be parallel with one another. These parallel marks, where they are found to exist, are evidence of glacier work. The front end, or nose of the glacier, plows up and scoops out the rocky and earthy material, when the temperature of the air permits it to advance, and in this way lake basins are sometimes formed. The material carried down by the moving ice is deposited at the extremity where the ice continually melts,‡ and thus large heaps of unstratified material, consisting of the *débris* of rocks, are formed, constituting what are called terminal moraines. The existence of these is another evidence that glaciers have once occupied such

* Lyell's *Antiquity of Man*, pp. 298, 300. † *Bibl. Univ.*, tome xlv. p. 46. 1872.

‡ When the Alpine glaciers reach a situation such that they are not more than 3,000 or 4,000 feet above the sea level, they melt so rapidly that they cannot extend any farther, unless the temperature changes. These precise limits vary from year to year, and still more when larger periods of time are considered. In one instance it is known that one receded half a mile in a single year.

places. Since frosts and various other causes occasionally separate large masses from the parent rocks of the valleys through which the ice stream moves, these will lodge on the surface of the glaciers, and they may in this way be transported to distant places, and even deposited on mountain sides and other elevated places. The following extract from Lyell* will give the reader an idea of the great transporting power of glaciers :

“ Now, some or all of the marks above enumerated—the moraines, erratics, polished surfaces, domes, striæ, and perched rocks—are observed in the Alps at great heights above the present glaciers, and far below their actual extremities ; also in the great valley of Switzerland, fifty miles broad ; and almost everywhere on the Jura, a chain which lies to the north of this valley. The average height of the Jura is about one-third that of the Alps, and it is now entirely destitute of glaciers ; yet it presents almost everywhere moraines, and polished and grooved surfaces of rocks. The erratics, moreover, which cover it, present a phenomenon which has astonished and perplexed the geologist for more than half a century. No conclusion can be more incontestable than that these angular blocks of granite, gneiss, and other crystalline formations, came from the Alps, and that they have been brought for a distance of fifty miles and upwards across one of the widest and deepest valleys of the world ; so that they are now lodged on the hills and valleys of a chain composed of limestone and other formations, altogether distinct from those of the Alps. Their great size and angularity, after a journey of so many leagues, have justly excited wonder, for hundreds of them are as large as cottages ; and one in particular, composed of gneiss, celebrated under the name of *Pierre à Bot*, rests on the side of a hill about 900 feet above the Lake of Neufchatel, and is no less than forty feet in diameter. But there are some far-transported masses of granite and gneiss which are still larger, and which have been found to contain 50,000 and 60,000 cubic feet of stone ; and one limestone block at Devens, near Bex, which has travelled thirty miles, contains 161,000 cubic feet, its angles being sharp and unworn.”

The European glaciers have, in many places, worn the rocks into rounded or hemi-spheroidal form, which, at a distance, resemble sheep lying down, and they are hence called, in Switzerland, *roches moutonnées* or sheep-back rocks. These rocks were found by Lyell and others, in North Wales,

* *Antiquity of Man*, pp. 294-5.

Sweden, and North America; and Agassiz found them in considerable abundance in the southern part of South America, and even as high as fifteen hundred feet above the sea. In North America the *roches moutonnées* are found scattered over a considerable part of the northern United States, in New England, the Middle States, the Rocky Mountains, and the mountains farther west.

Under the general name *drift*, geologists have for years described a somewhat peculiar formation which has left extensive markings all over the northern part of this country. This drift consists of materials derived from all the earlier formations of the earth's crust, accordingly as they were exposed to its action. These materials are in all stages, from the finest sand to boulders and fragments of rocks of enormous dimensions. These are, in many cases, thrown confusedly together, without sorting or stratification. The thickness of the drift material is not uniform; some places, the rocks beneath are nearly bare; in others, it is piled up in ridges and hills of considerable height. The boulders are almost everywhere sufficiently numerous to be noticeable; but in some places they are so thickly strewn as to attract special attention. Near Squam, in Gloucester, Mass., they are to be reckoned by hundreds. The west part of Cape Ann, in the same state, exhibits them in very great abundance.*

The rocky fragments, boulders, and other materials of the drift, are found to be of a different structure and mineral composition from the underlying rocks, and hence they were derived from a distance. That these materials have been moved from the north towards the south has been made evident by observation. As a rule the ledges from which boulders have been derived, can be found to the north of the present position of the boulders; and in many instances they have actually been traced out. Sometimes they have been carried for miles; in others, only for a few rods. Islands along the coast of the Eastern States are covered with boulders derived from ledges on the continent; and boulders derived from the coun-

* Hitchcock's *Geology*, p. 207.

try north of the great lakes, are scattered over the Western States. In numerous instances large fragments of rocks from one range of hills or mountains have been carried across the intervening valleys, often of great depth, as we have seen was the case in Switzerland. Huge boulders have been lodged on the sides of hills and mountains and in other places, and so poised on other rocks that a small paver can rock them, though an immense force would be required to dislodge them, and they are consequently called *rocking stones*.

Throughout the regions to which we have referred, where drift material exists, the rocks in places, or such as were deposited there, are more or less polished, straited, or grooved. Marks of this character are an essential part of the record of the great changes which once swept over the northern and southern parts of America, and at least over the northern part of Europe. Where this record has not been effaced by subsequent causes, or buried beneath an accumulation of material carried and deposited by water, to a depth so great that observation is impossible, these markings are conspicuous. As a general rule the grooves, which are parallel to one another, are no more than a fraction of an inch in depth, and from one-fourth to four inches in breadth, but rarely as much as a foot, with a depth of three or four inches. On the other hand, the markings are so small as to be scarcely visible; and on quartz and similar hard material the microscope reveals delicately and definitely cut striæ. In other places the surface is smoothly polished. The direction in which the boulders moved, indicates the direction of the striæ. The northern sides of mountains are more numerous marked than the southern sides; the former are more rounded, while the latter are left more angular. Such is a brief description of the drift phenomena of North America, and it will apply with but little change to the same formation in other parts of the world.

There is no longer much doubt as to the primary cause which produced all these phenomena; but such was not the case a few years ago. We then had the iceberg theory, in which these floating masses were supposed to have been carried

southward by ocean currents, setting in that direction, carrying in them and on them an immense amount of detritus, the rocks frozen in the body of the ice, producing the scratches and other marks in the rocks still in place, while the continent was still beneath the surface of the ocean.* Icebergs have unquestionably produced some changes.

There was also the theory which ascribed the phenomena of drift to the rise of large areas beneath the Arctic and the Antarctic oceans, by which means their waters have been driven towards the equator, bearing along with them ice loaded with detritus. Further, there may have been, according to the theory, a succession of vertical movements, which produced successive waves; and thus the waters must have repeatedly risen and fallen, and by freezing at their ebb, vast masses of ice may have risen, and been floated along, carrying their load of material to be deposited where the ice melted, sometimes on the sides of mountains, where it was forced by the immense pressure to which the water was subject. The markings to which we have referred were supposed to be produced in this manner.†

There were others, however, relying more on a careful examination of the phenomena, and a better acquaintance with the action of glaciers, saw no other means to explain all the appearances which the drift formation presents, than the action of those great ice streams, whose remnants we have already briefly described as existing in different parts of the temperate and the arctic zones. The early writers on the subject could scarcely get rid, however, of the idea of sudden changes in bringing about the phenomena which the formations in the earth's crust present. We need not go back more than a quarter of a century, in the history of geological books, to find very many changes described as having taken place comparatively suddenly. The existence of Siberian mammoths frozen in the mud and ice, was thought to be almost sure proof of a very sudden change in the climate about the glacier epoch.

* See Lyell's *Principles*, chap. x., vol. i.

† De la Beeche's *Geological Manual*, p. 172.

As there are those who still cling to the iceberg theory to explain the events of the glacial era in American geology, we may mention that Agassiz and Guyot, on their arrival in New England, saw only the effects of glaciers. These eminent men, to whose labors we have already referred, were among the most active and learned of Alpine explorers, and having become familiar with the phenomena of glaciers, they were well prepared to give an intelligent decision in relation to the matter.

Professor James D. Dana has entered into a detailed examination of the glacial phenomena presented in the New Haven regions and he pronounces decidedly in favor of glaciers; not only as pertaining to that region, but the whole interior of New England.* Without discussing this part of the subject farther, we may safely conclude that the time is not far distant when there will scarcely be two opinions on the subject.

Professor Dana has discussed the great extinct glacier of New England, and deduced various conclusions respecting it. That it was of great thickness is proved by the fact that scratches are found at the height of 5,000 to 5,200 feet above the sea. It is inferred that the glacier had a thickness of 5,000 to 6,500 feet in northern New England, and an average of 2,700 in southern. A mass of ice of this enormous thickness would press with extraordinary power on the rocks beneath it, and as it moved along, its power of abrasion must have been very great. Fragments of rocks, lodged on the surface of this glacier, would be transported from one mountain to another, across intervening valleys of great depth, by the motion of the ice-stream. As the glacier melted, some of these masses of rocks would be left on mountain sides and even on summits. According to Dana, the melting went on slowly at first, but near the close of the era it was more rapid. Since this was a continental, and not a valley glacier, there were no lateral moraines. Of the material deposited by the melting of the ice, that which fell so as not to be acted on by run-

* *Am. Jour. of Sci.* [3], vol. i., pp. 1-5.

ning water would not be stratified, while the part sorted by streams of water would show stratification.

This great glacier came from British America, where its thickness was probably considerably greater. The elevation of the land in the higher latitudes was probably much greater than at present, so as to cause the glacier to descend in a southerly course.* That continental areas are gradually changing their relative level, is a well-established fact of observation.†

According to Professor Joseph Le Conte, glaciers once existed in the Sierras of California. He says: "There can be no doubt, I think, that the Yosemite valley was once filled to its *brim* by a great glacier." This he infers from the glaciated forms which he says are unmistakably observable on the walls of the valley in many places. Old terminal moraines are not perfectly distinctly made out; but he thinks there is no difficulty in tracing the existence of half-effaced mounds of this character in the Yosemite valley. The bottom of this valley consists of a succession of level meadows covered with grass and flowers, separated by higher ground overgrown with pines. The soil of the meadows is composed of *stratified* sand and gravel, but the higher ground is composed of *unstratified* boulders of all sizes, as is the case with terminal moraines, as we have already mentioned. "These boulder piles are certainly terminal moraines, and the meadows are ancient lakes or marshes, produced by the damming up of the river waters by successive terminal moraines left by the retreat of the glacier and afterward filled up by river silt." Professor Le Conte has traced the former existence of branch glaciers, and of glaciers of other valleys.‡

Glacier work has been traced in many other places in this country; and recently one has been traced in Virginia.§ The cause of the glacial climate forms an interesting chapter in geological science, but this paper has already reached too extended limits to treat it at this time.

* *Am. Jour. of Sci.* [3], vol. ii., p. 324; and vol. v., p. 188. † *N. Q. R.*, No. LII., p. 367. ‡ *Am. Jour. of Sci.* [3], vol. v., p. 325. § *Ibid.*, vol. vi., p. 371.

ART. III.—1. *Icelandic Poetry, or the Edda Saemunda.*
Translated into English verse by A. S. COTTLE. Bristol.
1797.

2. *Literature Scandinave.* XAVER MARMIER. Paris. 1840.

3. *Lieder der alten Edda herausgegeben durch die Brueder GRIMM.* (Songs of the old Edda. Edited by GRIMM Brothers.) Berlin. 1815.

4. *Mythologie Celtique traduite par P. H. MALLET.*

5. *Histoire de Danemark.* MALLET. Vol. 2. Genève. 1787.

IN contemplating the intellectual life of nations as exhibited by their literature we shall often have an opportunity to find striking contrasts as well as certain similar features. Comparative history and the philosophy of languages have done much, in our age, to facilitate the intercourse of science in generalizing it and promulgating cosmopolitan views and interests. The intellectual horizon of our generation is widening rapidly, though we cannot always deny that we lose in depth of speculation what we gain in breadth and liberality of views.

There seems to be a certain connection of the political and intellectual life of nations. There are various means for producing a thriving state. The same circumstances that caused the golden age of Roman literature, for instance, vast wealth accumulated for centuries, luxury, munificence of the Mæcenas of that time, fine taste for sculpture and architecture, an existence brought up in the great style of life—all of it caused also the downfall of Roman power.

But not those nations which were the strongest in numbers and territory have always attained the first rank in history; often small ones have risen from a comparatively weak state to grandeur and intellectual importance. The unfertile rocks of Phœnicia which embraced only a small and barren strip of land between the Mediterranean Sea and the Lebanon have produced the most enterprising nation of antiquity, to which we are indebted for numerous inventions and improve-

ments. Athens contained only forty-five thousand citizens at its most flourishing, epoch in the Periclean age ; nevertheless it was beyond all comparison the most important centre of culture in its time. Two thousand years have passed by and still we venerate Greek genius, and strive only to reach it—often vainly—in literature and art, architecture and sculpture ; in all that was termed *καλὸν καγαθόν*, beautiful, good and ethical. The little Dutch republic having made herself free from Spanish tyranny, claimed an unrivalled maritime preponderance for many decades, and succeeded in conquering or establishing some of the most important commercial emporia of the world, such as Calcutta, Batavia, Cape Town and even New York. In our own time England rules from her island home over an empire equal to that of Rome in its palmyest days. In a similar way Iceland, though inhabited by few men, became destined to play an important rôle on the world's theatre—for many centuries during the mediæval time.

There are six branches of the great tree of Germanic languages, the most ancient being the Gothic offset, that has left us only few evidences of its existence—the translation of the Bible, by Bishop Ulphilas, kept now in the library of Upsala, and well known to linguists as the “*codex argenteus*.” Next to the Gothic stands the Anglo-Saxon literature, which has become rejuvenated in the English language, while the Gothic has left no younger child. The third is the Icelandic, or old Northern language, kept to this day nearly in the same form as it was centuries ago in that lone island, the younger daughters of it being the Swedish and Danish languages. The fourth branch, the Frisian, lives only in a few law books. The fifth, the old Saxon, has become divided into Low German and Middle Dutch, the young branches being the Flemish and Dutch dialects ; and the sixth into the old German and High German, or German proper.

Some highly interesting lectures of a talented young Iceland, lately delivered at London to a full audience of scientific men, seem to have revived the sympathy of learned men for that rarely-visited, half-forgotten island amidst the two great

civilized continents; though we certainly cannot entirely forget the existence of a language we may call our cousin; of a mythology giving everywhere its clear proofs of a vigorous significance in our modern life; of a history closely connected with the most ancient ages of our country, and of a literature that has become a "Castalian fountain" for all the classical periods of England, Sweden, and Germany.

It is doubtful whether the Romans knew Iceland. Various and acute speculations have been made upon the subject of the "ultima Thule," as mentioned by Strabo, Pliny, and Seneca. This much seems to be certain, Iceland was not inhabited at those remote ages. Its history begins with that of Norway, its mother country, long after the great thunderstorm had subsided that came roaring down from the tops of the German oaks, and caused the decline and utter fall of the Roman Empire. Some centuries after the dawn of humanity, christianity rose even for those distant and almost unknown northern countries. In 875 Harold Harfagr, the fine-haired king, pledged by a solemn oath to a handsome lady that had refused to marry him whilst only the sovereign of one of those petty kingdoms of Norway, "threw up the shield," as the Northmen say, and went out to unite the country under his sway. He swore never to shave his beard nor cut his hair before he had fulfilled his vows. Years passed by and fortune smiled upon the bold youth—many a hard pitched battle was fought, and after a successful, though bloody war, and many protracted struggles, Harold succeeded in conquering Norway, having slain and defeated the Northmen, as well as the Swedish Goths that had come to their assistance. Then the lady consented to marry him, and he was deprived of his hair that had surrounded his gigantic form in heavy curls like a royal cloak. Harfagr reigned in Norway with despotic sway, and the Christian faith came with him.

But not all of that freedom-loving nation surrendered to him. Iceland had been discovered by a Norwegian a short time previously, and as its climate had little to terrify men accustomed to the bleak mountains of Norway, or to a life

spent chiefly upon the ocean, Ingulf and Hiorlef, about the year 847, found no difficulty in conducting thither a colony. After Harold's successful wars, more followed that are said to have belonged to the proudest and wealthiest of the aristocratic class.* They resolved to leave the country, and to carry with them their old habits and usages, that had become dear to them in the course of centuries, their old pagan gods, and their free institutions, to a corner of the earth where there were no tyrants, no slaughter and slavery to establish that new Eden—often sought for by mankind in all ages, but seldom found. They emigrated to Iceland fixing their *penates* on that solitary spot, where they were allowed to worship their old and much-beloved gods; active, industrious, simple, and pure men, like our Pilgrim fathers.

The history, life, and nature of that ice-covered island are intimately mingled with its literature, which may be fully understood only after having considered the circumstances by which, and according to which, it was brought to thrive. The Icelandic language and life remained nearly unchanged. “*Elle apparaît,*” says Xaver Marmier, “*encore aujourd’hui à peu près telle qu’on la trouve dans ses premiers monuments.*” The rural life of Iceland was homely and simple, of a wonderful *naïveté*. Up to this day it has had a continual struggle for the existence of man against a wild, rough, and almost indomitable nature, such as may be exhibited by no other country. “*Le sol aride,*” says Ampère, “*le vent qui gronde sous un ciel nébuleux, la mer qui frappe avec des gémissements de douleur son lit de roc, la lutte pénible de l’homme avec le sort et avec les éléments!*” For wild, indeed, is the scenery of Iceland, presenting high cliffs, and nearly unsurmountable rocks covered by snow, and partly by everlasting ice, a chaos of stone.

Wild waves, cataracts of water and foam, are lashing and dashing against the rocky coast; you hardly hear the voice of an organized being, only the howling, mad sounds of an unorganic world that seems to be intent on overpowering man, and which appears inspired by a strange, powerful, demoniac life; infinitely long are the nights, illuminated by magic

bloody streams of undulating, flashing torrents of light, the magnificent, awful midnight sun of the North; the hot geyser breaks through the lasting fields of ice, with its boiling waters, agitated to angry tunes by a stone thrown into its unfathomable abyss, like the giant of Greek mythology buried under the weight of mountains, and fettered with strong chains by a god. Hecla and Crabla, active volcanoes, throw out enormous masses of sulphur, of glowing brimstone and lava, being in a continuous, fierce, almost insane struggle against each other—with such auspices, in such environs, Icelandic literature grew up, a wild child of nature and superstition, of old Pagan reminiscences and everlasting combat. “Methinks,” says Robert Southey,

“Amid such scenes as these the poet's soul
Might best attain full growth.”

Icelandic poetry belongs to the most peculiar revelations of poetical genius. Only a short history is connected with it. Up to the year 1261, the island remained Pagan, free and independent. But some years before the time we mentioned above, Icelandic merchants, as some say, residing one year in Norway, or, as others say, Norwegian merchants sojourning in Iceland for some time, brought to the island the doctrine of Christ. A great change was produced by it, and much was lost for the Icelanders, in a worldly and poetical point of view, when they became converted. When the long and dreary winter came over sleepy nature, and wrapt everything into its great white funeral cloak, interrupted by glowing geysers and inflamed volcanoes; when the judges had retired from the courts to their winter mansions, and the farmer became unable to leave his hut and there was an end of tilling the soil, of harvesting and working, and the peasant went home to his fireplace, they were wont to comment, with their families or guests, near the blazing fire, the stories of old myths and legends of lore. Then a new world of remembrance was opened to them. Surely the Icelanders got deprived of more than any other people when they had to forget the old gods and to accept the faith of Christ, whom they called the White.

They lost everything of which they were masters, their old views of nature and with them the origin and the cause of their science, their doctrine of the world's creation and fall, all their rich fancy, the son of their poverty, and their only consolation for so many solitary days and nights. For a long time they did not understand the sacred music of the Christians, or their images. They never became able to erect cathedrals like those in Europe, which we still admire, relics of the mediæval age, that stand mournfully dreaming, as if reminding us of a time when Christian faith had filled the very heart of humanity. But they gladly accepted the art of letters—reading and writing—giving up their runic signs, and applying the new imported alphabet to their language carefully and joyfully. Christianity came not by force to Iceland, but peacefully and quietly, a remarkable contrast to the manner in which it was introduced by Charlemagne, and even later, when the Bible was forced upon men by fire and sword, “in majorem dei gloriam.”

The Icelanders' life at home being lonesome and weary, many of them went abroad to England and the Orkneys, to Normandy and the islands of the Mediterranean, even to Constantinople and Russia. They were free like the waves that wash Iceland's shores, calling themselves Franklins (Anglo-Saxon), Frey-sassen (German), or free bondsmen; and when they entered a crusade, making piratical excursions to foreign countries, Sea-kings or Vikings. Enterprising and daring as they were, they first discovered the most northern country of America, and named it Greenland—afterward they found Labrador, and a part of the New England States, and came down as far as Massachusetts, which they termed Vinland.*

It is uncertain and doubtful whether they made permanent settlements in the new continent, or vanished after some decades, either slain by the Indians, or having joined them. Not all traces of those very first settlers have disappeared, however; for instance, an old tower at Newport, R. I., reminds us of Northern or Icelandic architecture.

* Thormodur Torfesen: *Historia Vinlandiæ Antiquæ*. Copenh., 1705.

Icelandic literature developed itself according to the habits of life of the people and was refined by northern Mythology. "In Northern poetry," says Geijer,* a famous Danish historian, "deep feelings and power of fancy seem to slumber far away in the depth of the soul, without being inactive, so, if you compare northern literature to that of other nations, the former, at first, will appear severe and almost rough." The same impression was made upon Alfieri, the great Italian dramatist, who candidly professes he felt awed by the solemn calmness and the monotonous, enormous silence of northern life, nature, and poetry.

The most prominent work of Icelandic literature is the older Edda. We may only mention the younger prose Edda, a collection by Snorri Sturleson,† containing valuable information for *skalds* (poets) in the art of poetry, the runic art of writing, and religious doctrines. Many *sagas* (legends) were written at or about the same time, as well as Icelandic history, *Annales Islandicæ*, by Are Frode, Saemund Frode, Gunlang, Oddur, and others. After Iceland was united to the crown of Norway scarcely any sagas were written, history being replaced by dry chronicles, which also ceased with the great plague.‡ Up to the seventeenth century Icelandic literature and life seemed to slumber.

The elder Edda is a work of poetry collected by a well educated Icelander, named Saemund Sigfusson.§ Various interpretations have been given of the word Edda, which in Icelandic simply signifies the great-grandmother. This work, too, was forgotten; when at the end of the seventeenth century the valuable manuscript of it was discovered at Saltholm, an Icelandic town; in 1787 it was printed at Copenhagen. There are three distinct parts of the Edda. I. Songs of the Gods (in Icelandic, *Voeluspá*, *Grimnismál*, *Thrymskoidha*). Northern mythology is too well known to need here any further commentaries, but its most valuable and almost only

* Geijer, *History of the North*, I., i., 315. † 1241.

‡ The Black Death, A. D. 1350, a dreadful pestilence, ravaged the whole of Europe, destroying about five millions of men. § 1133.

source is this part of the Edda. It is the history of a faith, described by Southey as :

“A strange and savage faith
Of mightiest power ! it fram'd the unfeeling soul,
Stern to inflict and stubborn to endure,
That laugh'd in death !”

Odin or Wuodan, the chief god (Wodan's day, Wednesday), created the earth, as is said in the Edda :*

“ From the limbs of Ymer (a giant)
Was the earth created,
And the mountains were formed
From his bones :
From his blood flow all the waters,
And the vaults of heaven are formed from his skull.”

The Edda sings of the cosmogony :

“A tale well worth to hear,
In mystic Runic writ”—

and as given by Oehlenschlaeger :

“ Of th' Aser and the giants,
Their long and fatal strife,
Of true love's firm reliance,
Of Loke, with treasons rife,
Of Odin and Valhalla
It sings, of Thor the strong.”

Thor is the god of strength and thunder (Thor's day, Thursday). He is the Hercules of the Edda's mythology ; Freya, the goddess of love (Friday), appears to be similar to the Greek Aphrodite. In the celestial fort there is the castle

* Or Ymis holdi
Var iverp vm scavpop
enn or beinom biverg
Himin or harsai
ins hrimkalda ictvnnas
Ennor sreita sior.

where Heimdaller* resides, that sacred guardian of heaven who drinks divine hydromel in the secure and tranquil palaces of the gods. Loke is called the calumniator of the gods, the grand contriver of deceits and frauds, the reproach of gods and men, and the architect of guilt. He is beautiful in his figure, but his mind is evil, and his inclinations inconstant. He surpasses all mortals in the arts of perfidy and craft.

It seems obvious to compare the life of the northern gods to that of the Greek deities on Mount Olympus. The Edda says:

“ All the Einherier (Odin's companions)
In Odin's domain
Fight together daily
And chose their prey of death :
From the battle they ride
Afterwards, and sit down
To drink beer with the Asas,
And likewise in joy and unity
They feed together on the bacon—”

words that may strongly remind us of the life on Olympus, as sung by Homer, but sung rather differently! The brightest and most beautiful god of the Edda is Baldur, the symbol of light and innocence. His death, caused by Loke, that made his blind brother Hoedur throw a misletoe after him, forms a most important epoch in northern mythology. From hence dates the entrance of vice, violence and crime into the world, and a state of continual warfare in the heavens, on the earth and beneath the earth, as the consequence,—which state is to last until the day of Ragnarok, called otherwise in the Edda,

* As is said in the Edda :

Enn þar Heimdall
Ovepa valda veom :
Parvörpr goda dreccr
Ivaero ranni
Glapr hinn goda miör.

At ibi Heimdallum
Ajunt præesse domiciliis
Ibi vigil deorum bñbit
In amvena domo
Hilaris bonum medium.

the Twilight of Gods—shall arrive. Then even the ash-tree Yggdrasil will tremble, the greatest of all trees, the branches of which cover the surface of the earth, while its top reaches to heaven, that gigantic tree that is supported by three vast roots, one of which extends to the ninth world, or hell. Then the giants will come forth, one of whom the Edda describes as follows :

“ His long jagg’d iron teeth
Were set in double rows,
His mouth of monstrous width—
His nails—like vulture’s claws—
His body—meagre, gaunt —
His eyes two live coals seem’d—
His cheeks—of ashy tint,
Fire from his nostrils gleamed.”

Then the wolf Fenris shall break loose from his chains and open his enormous mouth, which reaches from heaven to earth, the fire shall flash out from his eyes and nostrils, he shall devour the sun, and a great dragon that follows him shall vomit forth upon the waters and into the air great torrents of venom. In this confusion the stars shall fly from their places, the heavens shall cleave asunder, and the army of evil Genii and giants, conducted by Surtur, the Black, and followed by Loke, shall break in to destroy the gods. Everything will perish then, except, says the Edda, the great ash :

“ Yggdrasil’s Ash
Totters, but stands.”

Fire will devour heaven and earth in the end, as Ovid says in a similar way :

“ *Esse quoque in fatis reminiscitur adfore tempus,
Quo mare quo tellus arreptaque regia coeli
Ardeat et mundi moles operosa laboret.*”

“ La saga de Frithiof,” says Marmier, “est la reproduction exacte de la saga islandaise,” therefore we quote Tegnér :

“ The tree of time
Then withering fell into yellow leaf,
And Nidhoeg gnaw’d its root, then broke their chain
The powers of gloomy night, the ancient anach.

Then Miggard's serpent struck the affrighted sky
 With venom-swelter'd tail, then Fenris howl'd,
 And Surtur's sword of flame from Muspelheim
 Like lightning blaze^d; since then eternal rage
 Throughout the whole creation, war and strife.
 In Vallhall crows the cock provoking god's and men
 To never ceasing combat, o'er the earth
 And eke beneath—
 The high and mighty Asas
 Themselves have fallen: their day of expiation
 Is Ragnarok—a day of blood in Vigrid's plain—
 The earth one day shall sink beneath the main;
 The brilliant army of the stars on high
 Shall disappear from heaven, and nature all
 In one vast sea of flame be overwhelm'd.”—

But after all a new creation will take place :

“ When the fire is extinguished,
 Vidar shall construct anew
 The domain of the gods
 And Vala with him.
 Then finally shall peace
 Succeed the long strife.”

and, as Edda says in another verse :

“ A hall I see
 More brilliant than the sun,
 Roofed with gold,
 On the summit of Gimle (the highest heavens)
 There shall dwell
 A virtuous race
 And enjoy blessedness
 To time eternal.”

The most interesting of the Songs of Heroes, the second part, are well known among all nations—they have become household tales of our modern time. French and German, English and Swedish poets have used the poetical fables contained in them. The Heroic Saga is a younger reproduction of the saga of the gods, and is given also in the “Skalda,” the continued younger Edda. To mention some instances: The legend of the Swan is the real essence of Richard Wagner's well known opera, *Lohengrin*. Another well known saga is

told after the Edda by Tennyson, in his *Idyls of the King*—
Bedivere casts away King Arthur's sword :

“Then, with both hands I flung him, wheeling him ;
But when I looked again, behold an arm
Clothed in white samite, mystic, wonderful,
That caught him by the hilt and brandish'd him
Three times, and drew him under in the mere.”

The same poet laureate gives us a charming, humorous
little piece, taken from the Edda, the very ancient legend of
the Sleeping Beauty. It is the Edda's Sigurd :

“He comes, scarce knowing what he seeks,
He breaks the hedge—he enters there—
The color flies into his cheeks :
He trusts to light on something fair—”

And after :

“The hedge broke in, the banner blew,
The butler drank, the steward scrawl'd,
The fire shot up, the martin flew,
The parrot screamed, the peacock squall'd,
The maid and page renew'd their strife,
The palace bang'd, and buzz'd, and clackt,
And all the long-pent stream of life,
Dash'd downward in a cataract.”

We mention these merry verses of Tennyson in order
to show the contrast. The Edda's Sigurd is the worthy repre-
sentative of a sombre tragedy unsurpassed in literature by
sublime thoughts and deepest feelings. No hero of the Ice-
landic poem is fitter to be compared to the most renowned
hero of Greek literature, to Achilles. Both are stronger
than men—almost godlike—both are nearly invulnerable.
Sigurd became almost incapable of being wounded, by killing
the monstrous dragon, Tafnir, and bathing in its blood, which
was said to have covered his body like a horn shirt of mail.
Achilleus, when a child, was put into celestial fire by his
mother, Thetys, but both remained susceptible of external
injuries. Sigurd's shoulder was touched by a leaf from a near
linden tree, which left open a little space that could not be
covered by the dragon's blood—Achilleus' heel, by which his
mother held him, remained vulnerable. But, says Dwight,

"There will never be wanting a Paris to infix the dart." Both died after having done many glorious deeds, not being killed in open battle array, but slain by villanous murder, both by the hands of their brothers-in-law. Achilleus may be deemed to be the ideal of Greek legends, the Greek standard model of all that is beautiful, gallant, noble, and high-minded. Sigurd's fate appears more tragic. He is more harsh and hard, but at the same time more pure, chaste, and untouched by the common vices of man. So Marmier :

"Mais ce qu'il y a de plus beau dans ces chants de Sigurd, si grossiers qu'ils puissent être, c'est la peinture si rude et si vraie des peuples du Nord, ce sont des figures monumentales taillées à grands coups de ciseau dans un rocher de granit."

And the Edda's saga of Sigurd contains even more than that: a very thoughtful, philosophical idea of deepest speculation. Sigurd represents an allegorical idea; he denotes the spring-time of life and nature, the bright god of light. Brunhild, the sleeping beauty, a valkyriar of Odin, is saved by him, and he marries her, but her honey-moon is short: Sigurd must leave her, like the year, like time, that is marching on, restlessly, without any mercy; he must withdraw from the first love of blooming spring, and devote himself to the second love of glowing summer.

The third part of the Edda consists of didactic songs, wise sayings, and proverbs of the three Nornies, Urda, Verdandi, and Skulda. In Icelandic this part is called *Hávamal*, and is full of philosophical speculation, as well as of a practical wisdom of life, which is real and natural indeed. We quote some specimens :

1.

"All are doomed to tread the road
That leads to Hela's (Death's) dark abode.

2.

"Cattle will die,*
Friends die,
At last you die yourself ;

* Deyr fé
Dyia fraendr
Deyr siálfrit sama

But nevermore
Your glory will die,
And the name you gained."

3.

" You need wit
For a long journey ;
The ignorant
Will become a mockery.
Sitting with his kinsmen."

4.

" Haste to take the goblet,
But empty it slowly,
Speak well or be silent.
He talks too much
That never will stop
To use idle words."*

The Edda is entirely epical, and at the same time dramatic, containing numerous dialogues. There is no arbitrary fiction in it. It is a historical saga, relating the most ancient legend of the nations of the North, told to us according to Icelandic ideas, brought up by Icelandic Pagan faith, by superstition and reminiscences from the earliest ages of mankind. Icelandic poetry may be termed sound, healthy, strong—there is only little lyrical sentimentality in it—it is Pagan poetry, longing for fierce struggle and remorseless war, thirsty for blood and slaughter. For at those remote ages revenge for blood was a holy duty, handed down from generation to generation. But

En orz-tirr
Deyr-alaregi
Hoeim er sér-góðan gótr.

* At the time of the Edda no Women's-right associations appear to have existed. The poet is rather strong in blaming women for mischief which has come by them.

Tá faer er friár
He suffers who loves.

or,

Opt fá á horskan
Er á heimskan mé fá
Lost-fagrir litir.
Saepe capiunt sapientem
Qui insipientem non capiunt
Venusti cultus.

at the same time Icelandic poetry is full of great and sublime thoughts, of peculiar beauty, and of the highest ethical ideas. Only one idea paganism was unable to conceive and to appreciate, that ethical idea which has reformed the world—Love your enemies. It was Christianity that laid down this maxim, and so caused the ruin of the Pagan world, creating a new empire—the kingdom of Christian Humanity. With the same idea Tegnér winds up his saga :

“ Rumour hath reached me of a Southern Baldur,
 Son of a virgin, by Alfader sent
 T' expound the runes mysterious, that are graven
 On the fate's sable buckler, yet unravell'd.
 Peace was his end and aim, his falchion love,
 And like a dove sat innocence upon
 His silver helmet—
 The day will come, and I foresee it clear,
 When o'er the rugged mountains of the north
 'Twill spread its dove-like pinions, and on high
 Will wave victoriously its sacred banner.”

ART. IV.—1. *Antiquitates Americanae, sine Scriptores Septentrionales Rerum Ante-Columbianarum in America.*
 Edidit Societas Regia Antiquariopum Septentrionalium.
 Hafniæ. 1837.

2. *The Northmen in New England, or America in the Tenth Century.* By JOSHUA TOULMIN SMITH. Boston. 1839.

3. *Introduction a L'Histoire de Dannemarc.* Par M. MALLET.
 Copenhagen. 1755.

THE strict critical spirit of modern times is proving fatal to many a deeply founded reputation, and rending the laurels from brows to which they had seemed fitted by nature. We are becoming unwilling to take anything upon report, and have a question ready for every claim, a doubt for every obscurity. We accept nothing as proved, unless it be illuminated by evidence of noonday brightness; we receive nothing as

probable unless it is credible in itself and founded upon original documentary testimony. Modern historical writers are no longer satisfied to make their works mere compends of the blindly accepted stories of their predecessors. They aspire to go to the fountain head for every narration, to consider every event from the light of contemporary documents, and to sift the grain of truth from the bushel of narrative relating to every historical individual.

This spirit of strict investigation, which has been growing upon the literary world throughout the present century, has become almost a passion with our living historians. No reputation is too lofty for their attacks, no story too sacred for them to tread with feet of doubt within its hallowed bounds. Among others who have felt their unsparing blows the heroic William Tell, whom the world at large believed in with unquestioning faith, has vanished into the realms of myth and exists no more in the material universe. Coming to later days, Captain John Smith has been declared a mere boaster and his romantic adventures to be framed "of such stuff as *lies* are made of." We have left the age of faith. We live in the age of doubt. The fate of the two names mentioned is that of hundreds who had attained to distinction in the world's annals. And as some fall others rise. Names which have been buried, centuries deep, beneath the snows of time, are being thawed out by the searching rays of investigation, and are reassuming their ancient place in the world's lists of the glorious.

Our tutelar saint, Columbus, has not passed unscathed through this fire. The ordeal has tried even his firmly based claims to credit. Highly meritorious we must continue to acknowledge him, but if we accept the estimate of northern antiquarians, we cannot avoid placing him on a somewhat lower pedestal than that upon which his memory has so long stood. It is not the well-known fact that he was merely striving to reach the coast of Asia by a new path, and never discovered that he had achieved anything greater; it is not even the less known fact that the existence of a western territory was written down in Europe centuries before his time. Be-

yond these lies the fact that he made a voyage to Iceland in his youth, * that this island was simply an outlying portion of the western continent, and that here were kept numerous manuscripts relating to a discovery of America five centuries before. It was well known that the Northmen had gone still further west from Iceland and discovered and settled the western coast of Greenland. It was equally well known in this island that the American continent had been long before discovered, and had been visited by numerous expeditions. From these premises Rafn and others hold it as highly probable that in his thirst for geographical knowledge, he became acquainted with these facts and made them the basis of his subsequent actions.

However this be, it has been fully ascertained that he was not the original discoverer of America. Just five centuries before he visited its shores it was reached and colonized by the Northmen. And these bold navigators had the superior credit of knowing that they had reached a new continent. But they knew better how to wield the sword than the pen. They wrote their annals in characters of blood on nameless battlefields, or traced them with adventurous keels upon the broad surface of virgin oceans, and the world rested in ignorance of their achievements. The interest of the civilized world was not enlisted in their cause. They did not appear in history with the pathetic story or the romantic adventures of the Genoese discoverer. They sailed their own craft, cast their sails to the breeze with a wild song to the powers of victory, and a muttered prayer to Odin, and their deeds were written down in the bare annals of a distant and hardly-known island, reaching even the half-savage shore of Norway in vague and exaggerated tales. It is not strange, then, that southern Europe remained ignorant of their achievements, and gave to Columbus the full glory of discovery.

There is no more striking spectacle in history than that of these bold Norse adventurers, these untamable and unconquerable sea kings, setting sail upon unknown seas in their imperfect vessels, without compass to direct their course, only their keen

* Finn Magnussen has fully established this fact.

eyes and strong arms to guide them, only their bold hearts to sustain them, passing leagues of open sea, heedless of storm or distance, and descending like swarms of armed birds of prey upon the shrinking coasts of southern Europe.

With yet bolder assurance we see them bending their sails and coursing due west, reckless of the icy breath of the seas into which they sailed, daring death and danger as they traversed a new ocean, not with the known and attractive lands of Europe as their goal, but with an utter blank before them, a fearless trust in fortune and the wild hope of the adventurer to cheer them, as the days moved by and the unending void of waves still clipped them round.

Thus in the waste of the northern seas the vikings of old discovered Iceland, and established on this far-off isle one of the most interesting of human settlements. In this small community, cut off from the struggling and uneasy life of Europe, literature was pursued to an extent to which it had never attained in the mother country of these adventurers. Here were first written down the strange mythologies of the Scandinavian races; here was preserved a most interesting chapter of human history, to be handed over, in its original perfection, to modern searchers into antiquity, and to prove of the rarest aid in the work of collating the earliest traces of man's mental growth.

But their literature is not alone a record of myths. They still preserve annals of the doings of the Icelanders through many centuries. Of these annals the authenticity is unquestioned, and no doubt is entertained of their credibility, both as to date and the facts narrated. Their style has not the imaginative and florid breadth of romance. It rather wears the severe and simple garb of truth. It is a barren detail of facts, invested with just enough of the fable of superstition to prove its origin in the age and among the people to whom it is ascribed.

The internal evidence of these annals is quite as strong as is their external. The writings of various authors, at various dates, approximate in point of fact sufficiently to show that they refer to the same events, and differ in detail sufficiently

to show that they are not simply copied one from the other. The habits of thought, the stage of the language, the superstitions and social customs preserved in these documents are also strong evidences of their authenticity and their origin at the period claimed.

The first modern account of these documents, and their unlooked-for contents, was published by Torfæus, in 1705.* Wormius, Malte Brun, and numerous others, have written concerning them, yet the world at large remains in ignorance of the highly interesting discoveries which they chronicle. The original documents from which these writers have derived the material of their works are still in existence, and in good preservation. They have been published by the Royal Society of Northern Antiquarians, at Copenhagen, with a critical descriptive text that lays to rest all question of their authenticity, or of the truth of the discoveries which they chronicle.

The documents in question consist of manuscripts, or ancient copies of manuscripts, written shortly after the occurrence of the events which they describe, long preserved in the archives of Iceland, and now kept in the Royal and other libraries at Copenhagen. In proof of the reality of the discoveries related are monuments actually existing at the present day in the countries claimed to be discovered, which bear the strongest evidence of having been the work of the Northmen. The facts of their discovery of Greenland, and of the continent of America, were, in short, known centuries ago in Europe. They are alluded to casually in a number of ancient works, treating on diverse subjects. Among these are the works of Adam, of Bremen, who wrote in the eleventh century, long before the voyage of Columbus. In his work on "The Propagation of the Christian Religion in the north of Europe," he speaks in the plainest language of a country lying in the western ocean, that is, the ocean extending between Norway, Iceland, and Greenland, "which is called Winland, because vines grow there spontaneously. Corn likewise springs up there without sowing. This we learn not from

* *Historia Vinlandiæ antiqua, seu partis Americæ Septentrionalis.*

fabulous reports, but from the accurate account of the Danes."*

We will now proceed to relate the contents of these ancient manuscripts, in such measure as they refer to the discoveries of which we have spoken. It is now one thousand years ago since the bold sea adventurers of Norway discovered and settled Iceland, the former event occurring in 861, the latter in 875. Certain events in the mother country caused a considerable emigration to this newly discovered soil, and the uninviting island became the seat of a hardy and intelligent community, independent of European control for several centuries. Here, while intellectual darkness overspread Europe, letters were highly cultivated, and a native literature sprung up which has become of the highest interest to modern antiquaries.

There are two principal narratives extant among the literary remains of this period of Icelandic civilization, which detail the explorations and discoveries referred to, but these are strengthened and corroborated by passages in more than a dozen ancient manuscripts, besides several minor narratives dwelling upon the same subject.

One of these narratives relates the deeds of Eirek the Red and his sons. The other describes the achievements of another northern hero, named Thorfinn Karlsefrio. They each relate the same general facts, but differ in each bearing more particularity on the deeds of its special hero, and also in matters of detail in which diversity is one of the strongest internal evidences of the authentic character of the narratives. The first of these stories, entitled "Account of Eirek the Red, and of Greenland," seems to have been originally written in the latter country, and to have been subsequently taken to Iceland.†

* We append the original Latin text of the author, who claims to have received his information from Sveyn Ethrithson, king of Denmark, 1047-1076: "Præterea unam adhuc regionem recitavit, a multis in eo repertam oceano, quæ dicitur Winland, eo quod ibi vites sponte nascentur, vinum optime ferentes; nam et fruges ibi non seminantas abundare, non fabulosa opinione, sed certa comperimus relatione Danorum."

† *Antiq. Amer. Prof.*, p. 15.

In describing, in some detail, these discoveries, we must again refer to the discovery of Iceland. This island was first visited in the year 861 by a pirate, or trader—nearly synonymous terms in those days—named Naddodd. It was colonized in 875 by Ingolf, a Norwegian, and his followers. There is reason to believe, however, that it had been settled by Europeans at an earlier period. In the celebrated *Landnamabok* (or land roll of the first settlers in Iceland), it is stated that the Northmen found in this island a race of men called by them *Papæ*. "These men were *Christians*, and are believed to have come *from the west*, over the sea."

By *the west* the Northmen were in the habit of designating Ireland. The remainder of the passage quoted says, "there were found Irish books, and various instruments, whence it was known that they were *Westmen*." This clearly traces the first settlement to Ireland, a country to which the Northmen were accustomed to make trading and plundering voyages, and whose inhabitants seem to have been daring navigators at an early date.

Eirek the Red* and his father had been compelled to fly from Norway, in consequence of a homicide committed by them. They settled in Iceland, at that time thoroughly colonized. Here Thorvald, the father, soon died, but Eirek seems to have inherited his spirit, for he got into a quarrel with his neighbors, of which homicide was again the result. Having been condemned by the court, he was permitted to fit out a vessel, and to take his departure from the island. He informed his friends that he had determined to seek a land reported to have been seen by one Gunnbiorn, who had been driven by a storm into the western ocean.

This land, known as the *Rocks of Gunnbiorn*, seems to have been situated about half-way between Iceland and Greenland. There is no such land known now in the situation described. If it had a real existence in that day, it has either been submerged, or is lost through the danger and dif-

* The Saga of Eirek the Red, now in existence, forms part of a collection of Sagas, on vellum, transcribed from older MSS., between 1387 and 1395, a century before the voyage of Columbus.—*Northern Antiq.*, p. 251.

difficulty of traversing that region of the ocean. At the period of the early Norman voyages, the difficulty appears to have been much less than at present. The ocean in this region has since then become gradually blocked up by the descent of Arctic ice, rendering impassable the track formerly traversed. This change has also rendered itself apparent in Greenland, which is much less habitable now than at the period of its first settlement.

Eirek set sail from the western coast of Iceland, and continued to direct his course westward, till he too found land, calling the place Midjokul. Thence he coasted along the shore in a southerly direction, in order to discover if the land were habitable. He passed the first winter at a station which he named Eireksey (Eirek's Island). In the following spring Eirek resumed his voyage, entering an inlet which he named Eireksfiord. Here he fixed his residence. During the following summer he explored the western part of the country, naming various localities. He passed the next winter also in this land, returning to Iceland in the summer succeeding. He called the land which he had discovered Greenland, saying that so inviting a name would induce men to emigrate thither.

In the ensuing summer he returned to the newly discovered territory, to fix there his permanent residence. The names of many persons are recorded who accompanied him on this second expedition. The colonizing fleet was composed of twenty-five ships, of which only fourteen reached Greenland, the rest being lost, or driven back to Iceland. Among those which reached Greenland was the ship of Heriulf, the father of Biarni Heriulfson. We mention this particularly, as it has an important bearing on subsequent events. The narrative adds: "This event happened fifteen winters before the Christian religion was established in Iceland." We know that the latter occurrence took place, through the efforts of Olaf, king of Norway, in the year 1000. The colonization of Greenland took place, therefore, in the year 985.

These enterprising navigators were not content with simply discovering the coast region and forming a settlement

in this new land. They made voyages of discovery in the seas surrounding Greenland, in which they reached a high northern latitude. There is reason to believe that their explorations reached far up what is now known as Baffin's bay, and through Wellington channel. They have, indeed, left an undeniable record of these explorations in an inscription which was found in the year 1824 in the island of Kingiktorsoak, on the western coast of Greenland, in latitude $72^{\circ} 55'$ north. It is in unmistakable Runic characters, and is in possession of the Royal Society of Northern Antiquarians. We will allude to it more particularly when we come to describe the monuments of the Northmen.

The discovery of Greenland was, to all intents and purposes, a discovery of the American continent, this island being a constituent portion of the western hemisphere. It was followed, however, almost immediately, by a discovery of the main land of the continent, the first sighting of the latter being the result of an accident, but an accident of that character which only happens to the bold and enterprising. Heriulf, whom we have named as one of the companions of Eirek, had a son named Biarni, a youth possessed with a great desire to travel, and who was absent on a trip to Norway at the time of Eirek's voyage of colonization of Greenland. He arrived at Iceland on his return voyage the same summer, and shortly after Eirek's departure. He was troubled on learning of his father's voyage, and unwilling to disembark. On being questioned by the sailors as to his intentions, he replied that he wished to spend the winter, as usual, with his father, and would follow him to Greenland, if they were willing to accompany him. It did not take long for men who were accustomed to all the dangers of the seas to assent to this long voyage over an unknown ocean, and they put to sea again as soon as they had refitted their vessel. Biarni is credited with the remark: "Our course seems somewhat foolish, when none among us has ever crossed the Greenland ocean." But this obvious fact appears to have had no power to deter them from the dangerous voyage.

As the manuscript proceeds to relate,* they made sail for three days, passing far out of sight of land. The fair wind which they had thus far had now failed them, and strong northeasterly winds sprang up, together with thick fogs. They were borne for many days before the wind, not knowing whither. At length the light of day and the clear face of heaven once more gladdened their fog-wearied eyes. Sailing onward for one day more, land appeared to the storm-tossed navigators. A discussion arose as to what land this was, Biarni deciding that it could not be Greenland. On approaching nearer, they discovered that the land was not mountainous, a fact very noticeable to men who had spent their lives in, or in the seas between, very mountainous countries.

They perceived, also, that the land was covered with woods, and had rising grounds in many parts. Leaving the land to the left, they put the ship about, and set sail to the northward. They now sailed two days before again seeing land. Biarni was asked again if he thought this was Greenland. He decided in the negative, "for they told me," he said, "that there are great mountains of ice in Greenland." Drawing nearer, they saw that this land was low and level, and overgrown with wood. Here the fair wind failed them, and some of the sailors wished to land, but Biarni would not permit it. The sailors strongly urged him to land, pretending that they needed wood and water. "You lack neither of these," said Biarni; and, despite the complaints of his companions, he had the sails hoisted, and again put to sea.

This lack of curiosity on his part seems strange, but is generally considered an indirect proof of the authenticity of the narrative. A fabricated story would scarcely have simply mentioned that they came within sight of land. But it was late in the season when the voyagers had left Iceland. The season of storms was approaching. The land they sought lay an unknown distance to the north. Biarni seems to have mingled that boldness and caution which are the distinguishing characteristics of successful men. Greenland was his present

* Mallet, p. 176.

goal. There was time enough in the future for further exploration of these new lands. He could not now afford to risk his safety and that of his companions by delay.

Such, at least, seem the probable reasons of his haste to go forward, though the narrative gives but the simple record of their movements and discoveries. They now sailed three days with a southwest wind. At the end of that time land was again sighted. This land was high and mountainous, and covered with ice. There was again a desire of the sailors to land, but their leader still proved obdurate, saying that the land appeared to him little inviting. They, however, coasted along the shore till they perceived that this was an island. They then put the ship about, with the stern towards land, and stood again out to sea. The wind continued from the same quarter, but now blew much more strongly, so that they were obliged to shorten sail. After sailing for four days in this course they saw land for the fourth time. Biarni being asked whether he thought this was Greenland or not, replied, "This, indeed, corresponds to the description which was given me of Greenland. Let us make land." They did so, approaching, towards evening, a certain promontory. It was on this very promontory that Heriulf, the father of Biarni, dwelt. Biarni betook himself to his father's house, and having relinquished a seafaring life, remained with his father as long as he lived; and after his death, took possession of his estate.

So ends the account of the voyage of Biarni Heriulfson, a very simple and condensed narrative of the first well authenticated discovery of these American shores. There is in it nothing of the romantic interest which surrounds with a poetic glamour the voyage of Columbus. Round this latter enterprise gathers a sense of pathos which irresistibly wins the attention of mankind. Its details are full of excitement; its results have a splendor and a sensationalism that will ever give the story an absorbing interest. But in this bare description of the voyage of a reckless adventurer, in a barbarous age, and among a rude people to whom the sea was a constituent portion of their empire, the wild winds now their lullaby and now their requiem, there was nothing to attract the attention

of the world,—no details of striking adventure and remarkable results to draw this narrative from the annals of the distant isle among whose records it lay buried.

When brought to the surface in these latter days it was questioned and scoffed at, and, although now generally accepted by historians, it has failed to awaken sufficient interest in the world at large to make it generally known. The great mass of people are now fully satisfied that Columbus was the original discoverer of America, though these undeniable records are yet in existence, and though numerous other less authentic evidences exist, of voyages hither, and of settlements on these western shores, in those far past times, when history had not yet emerged from the domain of fable.

The details of Biarni's voyage have been closely traced out, and have been found to agree remarkably with known facts. Leaving Iceland with a northeasterly wind, he is driven for many days through a region of heavy fogs. Shortly after the fogs clear off, he sights land. This has been supposed to be one of the American headlands, and the details seem to point to that formed by the States of Massachusetts and Rhode Island, of which the most prominent point is Cape Cod. The natural features of this headland agree with those given in the narrative.

Leaving this coast they sailed northwardly for two days, with a favorable wind. The point of land next reached is supposed to have been Cape Sable, in Nova Scotia. This is distant two hundred and ten miles from Cape Cod, a fair two days' sail. Nova Scotia is the second great headland on this portion of the American coast, and the description of the shore as "low and level, and overgrown with wood," is closely applicable. The next land reached is supposed to have been the coast of Newfoundland. The time occupied was three days, which, allowing the same average sailing time as before, would make the distance about three hundred and fifteen miles. This land is said to have been "high and mountainous, and covered with ice;" it was "little inviting," and was found to be an island. All these points apply well to the coast aspect of Newfoundland. Again sailing northward, four days' run

brought them to the coast of Greenland, distant six hundred miles. This would need a much higher average rate of sailing than before. But we are particularly told that now the wind blew much more strongly and bore them directly on their course so that their speed would necessarily be much augmented.

This account, in short, agrees so closely, in the essential particulars of the physical character of the land seen and the distances traversed, with the real features and distances of the northern American headlands, that it takes the coincidence out of the domain of pure chance, and forms a powerful internal evidence of the truth of the narrative.

As the account proceeds to relate, Biarni subsequently visited Norway.* Here he met and had an interview with Leif, the son of Eirek the Red, who visited Olaf, the king of Norway, in the year 999. Olaf was a zealous Christian, and succeeded in converting Leif, who was baptized, with all his men. The result of this was the introduction of christianity into Greenland, on the return of Leif to his father's home. The story of Biarni so inflamed the imagination of the young man that he determined to prosecute the same voyage. With this intention he purchased and manned the vessel of the discoverer.

In the succeeding words of the narrative: "All being ready, they set sail, and the first land to which they came was that last seen by Biarni." Leif was probably accompanied by some of Biarni's former companions, which enabled him to speak thus positively. Unlike Biarni, he made haste to land. He found the land to be destitute of herbage, with frozen heights above, between which and the sea were bare, flat rocks. Leif named this land *Helluland* (land of broad stones). They again put to sea, and sailing, probably, under the direction of Biarni's companions, next reached the second land seen by the former voyager. The two descriptions are identical, but that of Leif goes further. He landed and explored the shores, finding in many places white sands and a gradual

* *Antiq. Am.*, p. 26.

rise of the coast. These white sands have been described by all travellers to this coast.

He called this land *Markland* (land of woods). Again putting to sea, they sailed two days with a northeast wind, when land again appeared. This same time had been occupied by Biarni, sailing in the opposite direction, with a southwest wind. It is probable, then, that they had now reached the first land seen by him.

Approaching land they touched upon an island lying opposite the northeasterly part of the main land. Here they landed, and found the air remarkably pleasant. They observed the grass covered with much dew. When they touched this accidentally, and raised the hand to the mouth, they perceived a sweetness which they had not before noticed. This precise narration applies closely to the island of Nantucket, which is situated as described, and in which honey dew is known to occur. Returning to their ship, they sailed through a bay which lay between the island and a promontory running to the northeast. In this bay, when the tide was low, there were shallows left of very great extent. The men were very anxious to land, and took the vessel into the mouth of a river which emptied into this bay. Passing up this some distance, they emerged into a lake. They cast anchor in the lake, disembarked, and erected habitations, having determined to pass the winter here. Both in the river and the lake there was an abundance of salmon, of greater size than they had before seen.* We have here abundant particulars, and all exactly agreeing with the known conditions of the supposed locality.

The continued description adds to these coincidences. The land appeared good to them, and free from the intense cold of their own land, the grass not withering much, so that cattle might have found provender through the winter. The length of the days was greater than in Greenland and Iceland. On the shortest day the sun remained visible from half-past seven in the morning till half-past four in the afternoon. This fact was one to which the Northmen were not accus-

omed, and which they would have been most unlikely to introduce in a fictitious narrative, but which would seem a striking peculiarity to them, of their newly discovered land. They did not, it is true, calculate time as we do. They divided the day into eight portions, each of which they called in eykt. Each eykt had its particular name, and there were two points in the first day of winter which had special names, these names indicating the points of time at which, on that day, the sun rose and set in one of the principal places in Iceland.* A paraphrase of the passage mentioned, then, would read: "On the shortest day the sun rose and set at the same time that it rises and sets on the 17th of October at Skalholt, in Iceland." The hours indicated are those above-mentioned.

The account, in fact, is carried into a detail which we have not space to follow, every point closely agreeing with the real conditions of the country in question, so that all possibility of error in assuming this as the locality is well nigh eliminated. We will give one more important extract from the story. They were in the habit of sending out daily exploring expeditions. One evening one of the company, a German, named Tyrker, was missing. Leif blamed them for returning without him, and set out himself, with a party of twelve men, in search of him. They had not gone far before they met him returning. He, however, behaved strangely, answering their questions in German, rolling his eyes, and twisting his mouth. After some time he spoke in the Norse tongue. "I have something new to tell you," he said; "I have found vines and grapes." "Is this true?" asked Leif. "Yes," he replied; "I was brought up in a land where there was abundance of vines and grapes."† The contortions of face mentioned were, no doubt, his mode of expressing joy at his discovery. His using his native language, too, was a very natural effect of association of this fact with his memories of his youth. We refer to this fact as from it arose the name given by the discoverers to this land; namely, Vinland, or, as anglicized, Vineland. The dis-

* *Antiq. Am.*, p. 435, note. Other writers doubt the correctness of this interpretation of the somewhat obscure passage in the MSS.

† Smith, p. 110.

covery of grapes is also an important point of evidence in favor of the narrative, as they grow abundantly in the supposed locality.

Spring having arrived, they loaded the ship with timber, filled the long boat with grapes, and set sail northward, safely reaching the icy shores of Greenland. This ends the narrative of Leif's voyage, with the exception of his describing that he found a wrecked ship on a rock near Greenland, and brought off the unfortunate mariners, sending his vessel back a second time for their goods.

The next narrative relates the expedition of Thorvald.* This was a brother of Leif, who considered that the new country had been too little explored. He sets sail in the year 1002, arriving safely at Vinland. Passing the winter there, he devoted the spring and summer to exploring the coasts. He describes the country as fair and woody, with little distance between the forest and the ocean, and much white sandy shore. There were numerous islands and shallows. The description of the same coast given in the narrative of the voyage of Verrazzani, the French navigator, in 1524, corresponds closely, in brevity and language, with this more ancient account. It says: "All the shore was shoal, but free from rocks, and covered with fine sand; the country was flat."†

It is supposed that this expedition may have extended to the coast of the Carolinas, or still further, from the time it occupied. Unfortunately no details of its results are preserved. Another winter was passed, and the next summer Thorvald and his men coasted to the northward. Their ship was stranded by a storm, on what seems to have been the neck of Cape Cod. It was repaired, however, and they continued their course.

The account of their next landing is curious, as it introduces us, for the first time, to the native inhabitants of this newly-discovered land. Approaching three elevations which appeared on the sandy shore of the bay, they found them to be canoes, made of skins, and under each three men. They

* Mallet's Introduction, etc., p. 180.

† Bancroft's *Hist. U. S.*, vol 1, p. 16.

seized and killed all these but one, who escaped with his canoe. Thus was inaugurated that treatment of the natives by the whites of which there are so many more modern illustrations. In this instance it was signally avenged. The mariners betook themselves to sleep, no watch being set. They were aroused by one more wakeful than the others, and found a vast multitude of canoes approaching from the inner bay. They were immediately attacked, and defended themselves with difficulty behind protections raised on the sides of the ship. The Skroelings (as they called the natives) cast their weapons for a time, and then precipitously retired. But they had succeeded in striking Thorvald under the arm with an arrow, which seems to have been poisoned, for he shortly after died from the wound. He was buried where he fell. His followers passed the following winter, that of 1004-5, at Vinland, preparing quantities of grapes to carry home. Early in the following spring they returned, arriving safely in Greenland.

This expedition was followed by one by still another son of Eirek, named Thorstein. His adventure, however, was unsuccessful. They were driven by storms, the whole summer, on the seas, and made a port of Greenland in the first week of winter. Here Thorstein took sick and died, of a pestilence that also carried off many of his sailors.

We have thus given the main points of the first of the two manuscripts mentioned. We will now glance more briefly at the story given in the second manuscript, which is known as the "account of Thorfinn." It opens, as do indeed most of these Icelandic documents, with a long genealogy of the hero, extending back through several generations. Among his ancestors we may name his father, Thord Horsehead, whose mother was named Thorhild the Partridge. There are also in the list a Ragnar Lodbrok (Hairy-breeches), a Biarni Ironsides, and Biarni Butter-tub. *

Thorfinn was engaged in mercantile affairs, in which he had been successful. He arrived in Greenland in 1006, and

* *Antiq. Am.*, p. 130.

hearing it remarked that an expedition to Vinland held out a fair prospect of gain, he made preparations to go thither. His expedition set sail in 1007, and was joined by quite a number of the Greenlanders, there being in all three ships, manned by one hundred and sixty men. On their way south they stopped at Newfoundland, and at several other points, which they described in terms closely accordant with facts. Among others, the account gives an exact description of the neck of land forming Cape Cod. Thorfinn, in fact, describes carefully all the coasts he visited. He put two Scots ashore at a place which answers Nantucket bay. These were a man and a woman, who were very swift-footed. He directed them to run over the country to the southwest for three days, and then return. All we are told of their expedition is, that when they returned, one carried in his hand a bunch of grapes, the other an ear of corn. They sailed again, entering another bay (probably Buzzard's bay). Outside this bay lay an island, on each side of which were rapid currents. Eider ducks were found there so plentiful that they could hardly walk without treading on the eggs. The eider duck is still found on some of the Massachusetts islands. The currents mentioned may have been caused by the gulph stream, which formerly approached the coast more nearly than at present.

They passed the winter on the shores of this bay, taking shore every kind of cattle, for which they found abundant pasturage. Here a son was born to Thorfinn, the first European blood of whose birth in America there is any record. From this first American of European descent, born in the present State of Massachusetts in the year 1007, and named Snorri Thorfinnson, was lineally descended the celebrated sculptor, Thorvaldson, besides a long train of learned and illustrious characters, who have flourished during the last eight centuries in Iceland and Denmark. *

They passed a severe winter, during which they were in great straits for provisions. In the succeeding summer they commenced again the work of exploration. The next winter

* *Northmen in New England*, p. 177.

seems to have been passed at the same point at which Leif wintered, supposed to be the shores of Mount Hope bay. They called it, indeed, Hóp, a word having the same sound as the Indian Haup, of which Mount Hope is a corruption. There was, in fact, a tradition among the Indians of this region, that a wooden house, with men of another country in it, came swimming up their river, and that these men fought the Indians with mighty success.*

The name given by the Indians to Cape Cod is almost precisely similar to that given by the Northmen. As for the fighting mentioned, it is also accordant with the narrative of Thorfinn. This describes the natives as using canoes, as being swarthy in complexion, short and savage in appearance, with ugly hair, great eyes, and broad cheeks. These came in such great numbers in their canoes that the waters looked as if they were sprinkled with cinders. They wished to barter goods with Thorfinn, desiring, above all things, to obtain red cloth, for which they offered various kinds of skins, some perfectly gray. They desired also swords and spears, but this Thorfinn forbade. For a narrow strip of red cloth they gave a whole skin, tying the cloth round their heads. As the cloth began to run short Thorfinn had it cut into much smaller pieces. For these, however, the Skroelings gave as much as, and even more than, before. As the cloth ran out, the women of the Northmen made milk porridge.† The natives, having tasted this, were so pleased that they would buy nothing else, but gave skins for this. The barter was ended by a bull belonging to Thorfinn's party. This animal rushed from the woods and bellowed so loudly that the natives took to their boats in affright and rowed hastily away. It was three weeks before they returned. On this occasion they made a fierce attack upon the Northmen, and achieved a momentary advantage. But one of the women seized a sword and attacked them, which seemed to so greatly astonish and alarm them that they at once fled to their canoes, having first lost very heavily.

* Lort's *Archæologia*, 1787, vol. viii., p. 290.

† *Antiq. Am.*, p. 59.

These details, of which many more might be given, had we space, are none of them discordant with the condition of the country and the character of the inhabitants, and are related in a simple, straightforward manner, which, in itself, goes far to compel conviction in the honesty of the writers of this account. We need not repeat that the known antiquity of the manuscript, and the striking coincidence of its details with the real character of the northern American coast lands and their inhabitants, are the very strongest evidences of the truth of the narrations, and place the authenticity of the discovery of America by the Northmen beyond any reasonable doubt. We will pass over the remainder of Thorfinn's adventures. He returned to Greenland in the year 1010.

There are other ancient works in which Vinland is incidentally mentioned, and which allude to the histories of the parties we have named. Among these is a very ancient ballad, still preserved in manuscript in the Royal Library at Copenhagen. It was made in the Faroe Islands, and gives an extravagant description of an expedition from Ireland to Vinland. Subsequently to the voyage of Thorfinn, a daughter of Eirek, named Freydis, visited Vinland. We are indeed told that expeditions thither become frequent matters of consideration, the journey being esteemed both lucrative and honorable. There is some reason to believe that settlements were made there which existed for a considerable period. There are doubtful accounts of visits to this country, by an Irish priest, named John, in the year 1059, and by two Venetian brothers, named Zeni, in the fourteenth century. We have a more reliable account in the contemporary and authentic "Annals of Iceland," that Eirek, bishop of Greenland, sailed to Vinland in the year 1121.*

There are several other descriptions, in narratives considered authentic, of visits to the American coast, one as late as the year 1347. But these need not be detailed, as we have described the most important expeditions.

It may appear strange that the fact of these discoveries

* *Antiq. Am.*, p. 256.

should have died out of general knowledge. But it must be remembered that these expeditions were chiefly made from Greenland, and that the once flourishing colonies in Greenland underwent the same fate. They were gradually destroyed by changes in the climate, by contests with the natives, and by neglect of the parent state. The last bishop of Greenland was appointed in 1406. Since that date the colony has never been heard of. It, at that time, consisted of two hundred and eighty villages. When Greenland was again visited only ruins remained to tell of the ancient settlements, which for three centuries had been lost to the ken of civilization.

We may here incidentally allude to the belief entertained by the Northmen, that the Irish were in the habit of visiting America. The land visited was called Huitramannaland, or Irland It Mikla (Great Ireland), and was supposed by the Northmen to lie beyond, but to adjoin, Vinland. One of the authorities for this is the Icelandic Landnamabok, whose authenticity is beyond doubt. This work details the voyage of one Ari Marson to Huitramannaland, in 983, "which lies in the western ocean, near to Vinland the Good, west from Ireland."*

There are records of voyages to the same land by other Icelanders. One Biorn Asbrandson, whose history is given in great detail, sailed west, and disappeared, and one Gudleif Gudlaughson, who sailed from Dublin, in Ireland, visited this western land, saw Biorn there, and returned again to Ireland. It must be admitted, however, that these latter accounts are greatly shrouded in doubt, and are far from being as trustworthy as the records of the voyages to Vinland.

We will close with a brief description of the monuments left by the Northmen in the countries visited by them. These are of two kinds, ruined buildings and inscriptions. Ruins of ancient buildings exist abundantly in Greenland, in the localities settled. Among these are the remains of a large church, which correspond to the situation of a cathedral, known to have been built at a place called Gardar. Near Newport, in

* *Antiq. Am.*, p. 210.

Rhode Island, exists a singular ruin, known as the old mill, though it never was a mill within the memory of man, and is unsuited for any such purpose. It is composed of eight massive stone columns, a yard in diameter, supporting a tower of some fifteen feet diameter. The whole structure is about thirty feet high. The edifice is throughout very singular, the columns being of no known order of architecture. This erection has been ascribed to the Northmen, principally from the facts that the Greenland ruins are of like massiveness, that this is in the supposed locality of Vinland, and that it cannot be ascribed to modern builders.

Of the inscriptions mentioned, one occurs on the island of Kingiktorsook, in 72° 55' north latitude. It is a genuine Runic inscription, describing a voyage made here by certain parties, in the year 1135. In Iceland is a remarkable Runic inscription, in a celebrated cave known as the Cave of Paradise. It is very ancient and obscure, but has been deciphered, and is found to relate directly to the subject of the discovery of America.

On what is known as the Dighton Writing Rock, near the Taunton river, is an inscription closely resembling the Icelandic one in many parts. It has on it a bird, the ancient emblem of navigation, and a recumbent bullock, probably the emblem of settlement. The name of Thorfinn is said to have been distinctly read, as also the numerals cxxxi.* This same number is given in the manuscripts as the number of Thorfinn's companions when he went to Hóp. A great part of the inscription is made up of what appear to be Runic cryptographs, like those in the Cave of Paradise. These have not been deciphered.

Other inscriptions are reported to have been found, and a skeleton exhumed, having on it remains of metal armor, which has given warrant for Longfellow's "Skeleton in Armor."

* It must be admitted, though, that Rafn's reading of this inscription has been shrewdly questioned, and that Percy considers it but a series of rude marks, without discoverable meaning, and unlike any Runic inscription.

But we have given sufficient details of the Icelandic narratives, and of their cognate evidences, to render it, at least, strongly probable that they describe a real discovery, and that they cannot be, in any conceivable manner, the work of fabrication.

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- ART. V.—1. *Old Plays.*** A Select Collection. 12 vols., 12mo. London. 1780.
2. *Shakespeare and his Times*, including the Biography of the Poet, and a History of the Manners, Customs and Amusements, etc., of his Age. By N. DRAKE. 2 vols., 4to. London. 1817.
3. *A Course of Lectures on Dramatic Art and Literature.* Translated by J. BLACK, and revised according to the last German Edition. By A. W. SCHLEGEL. 8vo. London. 1846.
4. *Specimens of English Dramatic Poets*, who lived about the time of Shakespeare, with Notes. By CHARLES LAMB. 8vo. London. 1854.
5. *Works of Christopher Marlowe.* With Notes and some account of his Life and Writings. By ALEXANDER DYCE. 3 vols., post 8vo. London. 1850.

IN the average thought of English speaking men and women, the name of Shakespeare holds a somewhat singular position. Consider it in whatever light we may, the popular verdict concerning our great dramatist—not always based on an intimate acquaintance with the subject—appears to be something like this: Here was a man, who, without culture or education, with the fewest opportunities and meanest advantages, at once and without an effort, mounted the intellectual throne and donned the “round and top of sovereignty,” never to be laid aside in the progress of the centuries. By certain

processes, which we cannot fathom, he gained the clearest insight into the marvellous heart of man that has ever been accorded to a human being. He was so strictly impersonal in his writings that we can form no estimate of his private life or character. His royal thought embraced the world, yet could stoop to the very lowest form of humanity and comprehend without difficulty its secret struggles after perfection. He was wiser than the school-men and the sages, yet it was a sort of semi-barbarous, untaught wisdom that came not from common place methods of study and learning. In short, he was a miraculous creation—a man without any precedent, destined to have no successor, unlike any being of his age, incomparably greater than all who have since lived!

This extravagant phase of the 'Shakesperian' mania is of comparatively modern origin, and is by no means approved by all countries or peoples. Germany, indeed, has so enthusiastically received him that he may fairly be said to have become "naturalized" in that country, and it is doubtless true that his works have there received more philosophical study and criticism than in England and America. But with the single exception, Europeans in general have wasted no empty laudations upon Shakespeare's plays, regarding them as "monstrous productions which could only have been given to the world by a disordered imagination in a barbarous age." The opinion of Voltaire concerning him is well known, and the sarcastic Frenchman could find no milder expression for his judgment of Hamlet than to call him "the work of a drunken savage."

Shakespeare's total disregard of "the unities of time and place," his utter lawlessness and intellectual vagrancy have never been forgiven him by those who cherished the old classic models—the great dramatists of Greece, who in the golden age of literature wrote for all periods and for all nationalities. "The remains of the Greek theatre are, perhaps, the most beautiful of all things. . . . An enthusiastic admirer has boldly asserted that Sophocles was the most felicitous of mortals. Euripides provoked Philemon to declare, that 'if the dead still have feeling, as some suppose, he would hang hi—

self for the sake of seeing Euripides.' " . . . The three great dramatists of Greece, Æschylus, Sophocles and Euripides stand as the models and guides of all succeeding writers of tragic verse, and nothing can be more certain than that, to them, Shakespeare and his English followers are often under the greatest obligations. Æschylus is, in truth, the creator of tragedy. In his great Trilogv—the Agamemnon, the Chœphoræ and the Eumenides, the wonderful union of simplicity with sublimity has never been surpassed. The gloom of horror is often brooding over all—like a relentless fate which never ceases to pursue its victim. In the plays of Sophocles we live in a gentler clime, where deeds of the loftiest heroism are yet possible—witness the immortal tragedies of Antigone and Œdipus. Euripides, says Schlegel, sought to fill up the chasm that yawned between his contemporaries, and introduced his spectators to a sort of familiar acquaintance with his heroes. Sophocles affirmed that he drew men such as they ought to be; Euripides such as they are.

Though Rome never rivalled Athens in dramatic literature, the plays of Seneca, Plautus, and Terence are still read by scholars, and are destined never to grow old, but retain immortal youth. Spain has had her Cervantes, Lope de Vega, and Calderon, one work of the first-named, *The Destruction of Numantia*, possessing great elevation of character, and is apparently modelled after old Grecian tragedy.

Was Shakespeare familiar with these and kindred works of the fruitful past? Antiquaries and literary students have left no room for doubt that he had recourse to the writings of many authors, ancient and modern, in preparing his own great dramas. Reed, an acute critic, says that he "was not unacquainted with the most popular authors in Italian prose, and that his ear had listened to the enchanting tones of *Petrarca*, and some other of their great poets." He is known to have possessed treatises on French and English, and Latin and Italian grammars. Classical learning was very common in Shakespeare's time, and he had access to a large number of translations—for at that day not a single classic of value was unfamiliar to the more cultivated English reader.

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Drake, who has investigated the subject most thoroughly says: "We are convinced, from a study of his writings, that so extensive was his range of reading, that not a translation from the Greek, Latin, the Italian, Spanish or French appeared but what was soon afterwards to be found in the hands of Shakespeare." The old romances—*La Morte D'Arthur*, *Bevis of Hampton*, *Guy of Warwicke*, *Seven Champions of Christendom* and others—are frequently alluded to in plays. They were still, it seems, sung by minstrels of the day, as *Puttenham* speaks of "the blind harpers, or such like tavern-minstrels that gave a fit of mirth for a groat, their matter being for the most part stories of old time, as the *Tale of Sir Topas*, the reports of *Bevis of Southampton*, and such other old romances or historical rhymes." An examination of Shakespeare's dramas shows conclusively that, with rare exception, he "invaded authors like a monarch," and bore away his spoils without always crediting his authority. Hence the force of Robert Green's bitter accusation, in which he refers to "an upstart crow, beautified with our feathers." A few instances of this wholesale "adaptation" may be cited. The fairy-frolics of the *Midsommer Night's Dream* can be traced to *Gervase of Tilbury*, *Agricola*, and particularly to *Scot*, who describes *Robin Goodfellow*, and has the first suggestion of Bottom in his transformation of a man into an ass. *Romeo and Juliet* is founded on an old Italian story of *Luigi Porta*, and as a drama, called the "Tragical History of *Romeo and Juliet*," had been known for many years before Shakespeare's tragedy. Of the three plots of the *Merchant of Venice*, two are taken from a play called "The Jew." *Gosson*, in 1579, speaks of "The Jew shown at the Bull, representing the greediness of worldly choosers, and the bloody minds of usurers." The famous *Gesta Romanorum* contains the story of the trial-caskets. *Measure for Measure* finds its original in a drama by *George Whetstone*, called *Promos and Cassandra*. The resemblance of *Macbeth* to the *Trilogy* of *Æschylus* has been often noted. The English tragedy follows its Greek model in the narration of the crime, the abuse of power, and the final doom—with the furies

remorse and despair driving their victim to madness. In the **witches** of this terrible drama, Shakespeare followed the popular conception of the day. Scot speaks of witches as "**women** which be commonly old, lame, blear-eyed, pale, foul, and full of wrinkles." The *Tempest* was doubtless suggested by a pamphlet entitled "A Discovery of the Bermudas." The Bermudas, "as every man knoweth that hath heard or read of them, were never inhabited by any Christian or heathen, but ever esteemed and reputed a most prodigious and enchanted place, affording nothing but gusts, storms, and foul weather." Literary history tells a curious tale concerning the estimate placed upon Shakespeare by those of his own dramatic guild and profession. It is most strange to see how the name which more than two hundred years have only served to render more illustrious was during its owner's lifetime banded about as familiarly as that of the most insignificant penny-a-liner of them all.

In a singular play called "The Return from Parnassus," acted by students at St. John's College, occur some curious criticisms of contemporary authors, among others Shakespeare, Spenser, Daniel, Drayton, Marlowe, Marston and Churchyard. Spenser is called

"A sweeter swan than ever sung in Po,
A shriller nightingale than ever blest
The prouder groves of self-admiring Rome."

Daniel is termed "sweet honey-dripping Daniel," and Drayton's

"Sweet music is like a sanguine dye,
Able to ravish the sweet gazer's eye."

"However," the author adds shrewdly, "he wants one true note of a poet of our times. He cannot swagger in a tavern, nor domineer in a pothouse." Of the unfortunate Marlowe, he says:

"Marlowe was happy in his buskined muse,
Alas, unhappy in his life and end!
Pity it is that wit so ill should dwell—
Wit lent from heaven, but vices lent from hell.
Our theatre hath lost; Pluto hath got
A tragic penman for a dreary plot."

Ben Jonson is styled "the wittiest fellow of a bricklayer in England," and concerning Shakespeare we have this stanza :

" Who loves Adonis' love or Lucrece's rape,
His sweeter verse contains heart-robbing life.
Could but a graver subject him content,
Without love's lazy, foolish languishment."

John Webster, the author of the *Duchess of Malfy* and the *White Devil*—two of the most powerful tragedies in the English language—says, in his note to the public, introducing the last-named drama, that he cherishes "the full and heightened style of Master Chapman, the labored and understanding works of Master Jonson, the no less worthy composures of the both worthily excellent Master Beaumont and Master Fletcher, and lastly (without wrong last to be named) the right happy and copious industry of Master Shakespeare, Master Dekkar and Master Heywood, wishing what I write may be read by their light." Certainly, in view of the estimate which has since been placed upon these various dramatists this singular passage possesses an extraordinary interest. Whipple suggests that "this is not half so felicitous a classification as would be made by a critic of our century who should speak of the 'right happy and copious industry' of Master Goethe, Master Dickens and Master G. P. R. James." It is also a noteworthy fact that in the time when Webster's dedication was written the plays of "Master Beaumont and Master Fletcher" were far more popular than those of Shakespeare, two of theirs being played to one of the Bard of Avon. Robert Greene, an author of no mean ability, in his pamphlet entitled "*A Groatsworth of Wit*," addresses Lodge and Peele, two dramatists of that period—calling the former "that biting satirist that lately together with me writ a comedy;" and the latter, Peele, "thou no less deserving than the other two"—Marlowe and Lodge—"in some things rarer, in nothing inferior." Then follows this passage, which is usually thought by critics to refer to Shakespeare: "There is an upstart crow, beautified with our feathers, that with his tiger's heart wrapped in a player's hide, supposes he is as well able to bombast out a blank verse as the best of you, and being an absolute *Johannes factotum* is in

his own conceit the only Shake-scene in a country." From which curious criticism we may infer that even in those early times jealousy among dramatic authors was not a thing unknown. In the same line with these remarks we may note that Henry Chettle, in 1592, published an edition of Robert Greene's works, in which the author speaks very severely of Shakespeare, Marlowe and others. Later, as if to make amends for his act, the same publisher printed "Kind Hart's Dreame," with this remarkable address to "the gentlemen readers:"

"About three months since died M. Robert Greene, leaving many papers in sundry booksellers' hands; among others, his 'Groatsworth of Wit,' in which a letter written to divers play-makers is offensively by one or two of them taken, and, because on the dead they cannot be re-avenged, they wilfully forge in their conceits a living author, and after tossing it to and fro, no remedy but it must light upon me. How I have all the time of my conversing in printing, hindered the bitter inveighing against scholars, it hath been very well known, and how in that I dealt I can sufficiently prove. With neither of them that take offence was I acquainted, and with one of them (Marlowe) I care not if I never be. The other (Shakespeare) whom at the time I did not so much spare as since I wish I had; for that as I have moderated the hate of living authors, and might have used my own discretion (especially in such a case, the author being dead) that I did not, I am as sorry as if the original fault had been my fault. Because myself have seen his demeanor no less civil than he excellent in the quality he professes. Besides divers of worship have reported his uprightness of dealing, which argues his honesty and his facetious grace in writing that approves his art. For the first, whose learning I reverence, and at the perusing of Greene's book struck out what then in conscience I thought he in some displeasure writ; or, had it been true, yet to publish it was intolerable: him I would wish to use me no worse than I deserve."

The Return from Parnassus, before-mentioned, contains this strong intimation, that the works of Shakespeare were at that time popular: "Few of the University pen plays well; they smell too much of that writer, Ovid, and that writer, Metamorphosis, and talk too much of Proserpine and Jupiter" (possibly a hit at the mythological plays of Lyly and the Masques of Jonson).

"Why, here's our fellow, Shakespeare, puts them all down—aye, and Ben Jonson, too. O! That Ben Jonson is a pestilent fellow; he

brought up Horace, giving the poets a pill, but our fellow, Shakespeare, has given him a purge that made him bewray his credit."

An old letter of Mrs. Joan Alleyn to her husband, Edward Alleyn, a celebrated actor of that period, has an interesting passage which presents Shakespeare in a simple, every-day light that is not often cast upon him. It is this: "About a week ago there came a youth who said he was Mr. Francis Chaloner, who would have borrowed ten pounds to have bought things for, and said he was known unto you. and Mr. Shakespeare, of the Globe, who came, said he knew him not, only he heard of him that he was a rogue, so he was glad that we did not lend him the money."

Henslowe's Diary gives the receipts for several nights in 1594-1595, when *Hamlet*, *Taming of the Shrew*, *Cæsar*, and other plays, probably Shakespeare's, were performed, and these figures show that the audiences on those occasions were unusually large, doubtless on account of the popularity of the plays. We may also notice a verse of this time in an address to the same favorite actor, Edward Alleyn, which says:

"Will's new play
Shall be rehearst another day."

The "Will" of this stanza is generally inferred by critics to be no less celebrated an individual than Will Shakespeare. These contemporary notices are of value, as indicating, to a slight degree, the estimate in which England's greatest dramatist was held by those with whom he familiarly worked, and who must have been, in some sense of the term, his companions. A strong human interest is thus attached to the man who, of all writers of the English language, is, perhaps, the most impersonal and unguessable, while a new light and meaning are thrown upon the age in which he lived.

The works of these minor dramatists whom we have quoted, have never received the attention of the general reading world which their merits deserve. Students of old English literature are generally more or less acquainted with the ponderous tomes of Ben Jonson, Beaumont and Fletcher, Massinger and Ford, but the number of those who have even

hastily glanced over the dramas of Lyly, Marlowe, Webster, Marston, Dekkar, Chapinan and other play-writers of this period, is undoubtedly small. Even editions of these works are rare, to be found only in large libraries or in the collections, of antiquaries. Those, however, who have become familiar with the selections of Charles Lamb, Leigh Hunt's entertaining essays, the pleasant pages of Hazlitt's "Age of Elizabeth," and Whipple's critical volume upon the same period will long ere this have suspected the existence of that mine of wealth which lies hidden within these old volumes. We propose a brief examination of a few dramas of this class, confining our attention to such writers of the early Elizabethan epoch as Lyly, Peele, Kyd and Marlowe,—tracing in them indications of that wonderful fire of genius which burned so brightly in the larger natures of Ben. Jonson, Webster, Fletcher and Ford, and which found its fullest expression in Shakespeare.

John Lyly, born about 1554, was at one time a most popular writer. His editor declares that "he sate at Apollo's table, and that the god gave him a wreath of his own bays, without snatching." His prose work, "Euphues and his England," was held in such high esteem at court that some one has said: "It began first the language. Our nation are in his debt for a new English which he taught them. All our ladies were then his scholars, and that beauty in court who could not parley Euphuism was as little regarded as she which now there speaks not French." An adequate idea can be obtained of this once fashionable production by the following quotation, which is a fair sample of its stilted formality:

"There is no privilege that needeth a pardon, neither is there any remission to be asked where a commission is granted. I speak this, gentlemen, not to excuse the offence which is taken, but to offer a defence where I was mistaken. A calm conscience is a sure card: truth hath the prerogative to speak with plainness, and the modesty to hear with patience. . . . If I should go about to make amends, I were then faulty—in somewhat amiss—and should show myself, like Appelles' prentice, who, coveting to mend the nose, marred the neck; and not unlike the foolish dyer, who never thought his cloth black until it was burned."

What can we say of the good sense of a time when such

jargon as this was the popular language at court—when the most fashionable knights and ladies sought to rival each other in exchanging such meaningless and high-sounding sentences! Yet it is plain that Lyly, in his day, was regarded as a man of great learning and much talent. An old chronicler speaks of Archbishop Parker, who was such a lover of books that he kept in his house “drawers of pictures, wood-cutters, painters, limners, writers, and book-binders: one of these was *Lyly*, an excellent writer, that could counterfeit any antique writing. Him the Archbishop customarily used to make old books complete.” Oldys says of him—

“Lyly was a man of great reading, good memory, ready faculty of application, and uncommon eloquence; but he ran into a vast excess of allusion—in sentence and conformity of style he seldom speaks directly to the purpose, but is continually carried away by one odd allusion or simile or other (out of natural history, that is yet fabulous and not true to nature), and that still overborne by more—thick upon the back of one another.”

It is this overabundance of quaint conceits which Shakespeare's *Holofernes* ridicules when he says: “He is too picked, too spruce, too affected, too odd, as it were, too peregrinate, as I may call it. He draweth out the thread of his verbosity finer than the staple of his argument. I abhor such fanatical phantasies, such insociable and point-devise companions, such rackers of orthography.” It has also been thought that Scot caricatured this Euphuism in the conversation of Sir Piercy Shafton, in the “Monastery.”

But Lyly was not merely the foolish pedant and writer of odd conceits; he has many claims to our notice as a true poet. His dramas abound in beautiful imagery, and contain a wealth of illustration which becomes fairly wearisome. His endless mythological allusions are often tedious, but the careful student cannot fail to find in his pages many certain indications of a poetic mind, and even of something akin to genius. White says—

“Lyly's pieces are pure fantasy; pieces in which the personages are a heterogeneous medley of Grecian gods and goddesses and impossible, colorless creatures, with sublunary names, all thinking with one

brain and speaking with one tongue—the conceitful, crotchety brain and the dainty, well-trained tongue of clever, witty John Lyly.”

His plays were generally written for court entertainments, and were often performed by the children of St. Paul’s. One of his most popular dramas, “Alexander and Campaspe,” has several dialogues between the various Grecian sages—Plato, Diogenes, and others. It contains the well-known song beginning with “Cupid and Campaspe played with cards,” a dainty and fanciful conceit. In the drama of “Sappho and Phaon” occurs this characteristic bit of satire upon the customs of the time:

“It is good to see them (the courtiers) want matter, for then they fall to good manners—having nothing in their mouths but “Sweet mistress!” wearing our hands out with courtly kissings when their wit fails in courtly discourses. Now ruffling their hair, then setting their ruffs; then gazing with their eyes, then sighing, with a wring of the hand, thinking us like to be moved by signs and ceremonies.”

And in “Mother Bombie” there is another very savage thrust at women, whom he was ever pleased to hit with his delicately-pointed weapons:

“It is all one in Venus’ wanton school
Who highest sits, the wise man or the fool.
Fools in love’s college have far more knowledge
To read a woman over than a neat, prating lover.
Nay, ’tis confessed that fools please women best.”

Lyly’s fairy songs are very graceful. Here is one of them:

“By the moon we sport and play,
With the night begins our day;
As we dance the dew doth fall,
Trip it little urchins all.
Lightly, as the little bee,
Two by two, and three by three,
And about go we.”

In “Endymion” occurs a passage which was greatly admired by Hazlitt, who says of it: “The Phrygian shepherds, afraid of betraying the secret of Midas’ ears, fancy that the very reeds bow down, as though they listened to their talk. The narrative is wandering, but I can conceive of nothing

more beautiful, more simple or touching than this exquisitely chosen image. 'The twig to which thou laidest down thy head is now become a tree;' a dumb proof of the manner in which he passed his life from youth to old age in a dream—a dream of love. Happy Endymion! who would not wish to pass his life in such a sleep—a long, long sleep, dreaming of some fair heavenly goddess, with the moon shining upon his face, and the trees growing silently over his head. 'It is silly sooth, and dallies with the innocence of love, like the old age.'"

"*Cynthia*. Well, let us to Endymion. I will not be so stately, good Endymion, not to stoop to do thee good; and if thy liberty consist in a kiss from me, thou shalt have it. And although my mouth hath been heretofore as untouched as my thoughts, yet now to recover thy life (though to restore thy youth is impossible) I will do that to Endymion which never yet mortal man could boast of heretofore, nor shall ever hope hereafter.

[*She kisses him.*]

"*Eumenides*. Madam, he beginneth to stir!

"*Cynthia*. Soft, Eumenides, stand still.

"*Eumenides*. Oh, I see his eyes almost open.

"*Cynthia*. I command thee once again, stir not! I will stand behind him.

"*Eumenides*. Endymion! Endymion! Art thou deaf and dumb? or hath this long sleep taken away thy memory. Ah, my sweet Endymion, seest thou not Eumenides; thy faithful Eumenides, who for thy sake hath been careless of his own content? Speak, Endymion, Endymion! Endymion!

"*Endymion*. Endymion! I call to mind such a name.

"*Eumenides*. Hast thou forgotten thyself, Endymion? Then do I not marvel thou rememberest not thy friend. I tell thee thou art Endymion, and I Eumenides.

"*Endymion*. What do I hear? What! a gray beard, hollow eyes, withered body, decayed limbs, and all in one night!

"*Eumenides*. One night! Thou hast slept here forty years—by what enchantress is as yet unknown; and behold the twig to which thou laidest thy head is now become a tree."

Six of Lyly's comedies were published, with the following introduction, which indicates the manner in which they were performed, and the estimation in which their author was held: "Six court comedies, often presented and acted before Queen

Elizabeth by the children of her majesty's chapel and the children of Paul's, written by the only rare poet of the time, the witty, comical, facetiously quick and unparalleled John Lyly, Master of Arts." We can easily understand that his plays were fitter for courtly than for popular audiences. He remained, nevertheless, a favorite poet for many years. Drayton ascribes his overthrow to the influence of Sir Philip Sydney, who

" did first reduce
Our tongue from Lyly's writing then in use,
Talking of stones, stars, plants, of fishes, flies,
Playing with words and idle similes."

George Peele, Thomas Nash, and Robert Greene, minor dramatists, who lived in about the same time, deserve a passing mention. The most celebrated plays of Peele were his "David and Fair Bethsabe" and "Absalom." Nash rated him as "the chief supporter of pleasance, the Atlas of poetry, and *primus verborum artifex*." Old Anthony Wood says that his plays were "not only often acted with great applause in his lifetime, but did also endure reading with due commendation many years after his death." He had an elegant fancy, a graceful expression, and real melody of versification. His "David and Bethsabe" is probably his best work, though it has little to recommend it save its agreeable versification. It was published in 1599, after his death, "to show what could be made out of a correct, moral, and religious play." An extract from this drama will give a fair idea of its quality:

" Now comes my lover, tripping like the roe,
And brings my longings tangled in her hair.
To joy her love I'll build a kingly bower,
Seated in hearing of a hundred streams,
That for their homage to her sovereign joys,
Shall, as the serpents fold into her nest
In oblique turnings wind the nimble waves
About the circles of her curious walks,
And with their murmur summon easeful sleep
To lay his golden sceptre on her brows."

Charles Lamb, commenting upon this passage, says quite severely: "There is more of this stuff, but I suppose the

reader has a surfeit; especially as this canticle of David has never been suspected to contain any pious sense couched underneath it."

Robert Greene, from what we can learn of him through the meagre records, must have been a singular character. His private life scarcely bears close inspection. He was constantly sinning and repenting. He is accused of having deserted his wife, though he is also said to have supported her for a longer or shorter time after their separation. He led a profligate life in London, and many of his remarkable tracts seem to suggest his own unfortunate condition. These are the titles of some of them: "Greene's Mourning Garment, given him by Repentance, at the Funeral of Love, which he presents to all young gentlemen that wish to wean themselves from wanton desires." "Greene's Groatsworth of Wit, bought with a Million of Repentance, describing the Folly of Youth, the Falsehood of Makeshift and Flatteries, and the Misery of the Negligent. Published at his Dying Request." "Repentance of Robert Greene, Master of Arts; wherein by himself is laid open his loose life, with the manner of his Death." Harvey describes the circumstances of his unfortunate end, and tells how "his hostess, with tears in her eyes, and sighs from a deeper fountain, told me of his lamentable begging of a penny-pot of malmsie, and how he was fain, poor soul, to borrow her husband's shirt whilst his own was a washing, and how his doublet and hose and sword were sold for three shillings." Greene himself wrote this letter from his death-bed to his abandoned wife, in behalf of his host: "Doll, I charge thee, by the love of our youth and by my soul's rest, that thou wilt see this man paid, for if he and his wife had not succored me I had died in the streets." Can anything be more pitiful than this simple confession of a man who had tasted all the pleasures of a gay, reckless life about town, only to come to such a miserable end!

As a writer, he was full of affectation, but generally elegant, and sometimes eloquent, imitating Lyly in style and thought. His great fault was a want of simplicity. He wrote five plays, of which "Orlando Furioso" and "George A.

Green" are the best known. Of the former, some one has said: "His Orlando Furioso seems to have attempted to exhibit an unusual variety of characters in the dresses of Europeans, Asiatics, and Africans, and to mix them up with as much rivalry, love, jealousy, and fighting, as could be brought within the compass of five acts."

From "The Scottish History of James the Fourth, slain at Flodden," we extract this quotation. One of the characters says:

"Madam, by right this world I may compare
Unto my work, wherein with needful care,
The heavenly Workman plants with curious hand,
As I, with needle, draw each thing on land,
Even as he list. Some men, like to the rose,
Are fashioned fresh; some, in their stalks, do close,
And born, do sudden die. Some are but weeds,
And yet from them a secret good proceeds.
I, with my needle, if I please, may blot
The fairest rose within my cambric plot:
God, with a beck, can change each worldly thing,
The poor to earth, *the beggar* to a king."

Thomas Nash is somewhat famous for the bitter controversies which he had with Gabriel Harvey, so that, at one time, an order was issued that "all Nash's books, and all Dr. Harvey's books, be taken wheresoever they may be found, and that none of the said books be printed hereafter." Harvey himself said, in the preface to one of his works: "I have brought him low, and surely broken him. Look on his head, and you shall find a grey hair for every line I have written against him; and you shall have all his beard white, too, by the time he hath read over this book."

As a wit and satirist Nash was superior to his contemporaries, though he ranks below most of them as a poet and dramatist. Dekkar apostrophizes him as "Ingenious, ingenuous, fluent, facetious T. Nash, from whose pen honey flowed to thy friends, and mortal aconite to thy enemies. Thou that made the Dr. (Harvey) a flat dunce, and beat him at two sundry tall weapons—poetry and oratory. Sharpest satirist, succulent poet, elegant orator!" Both Gabriel Har-

vey and Thomas Nash are now forgotten by the world, and "thus the whirligig of time brings in his revenges."

A single play of Thomas Kyd, "Hieronymo, the Spanish Tragedy," was at one time immensely popular, running through more editions than any drama of that period. Some of its finest passages—which have been called "the very salt of the old play—without them it is but a *caput mortuum*"—are thought to have been written by Ben Jonson. It is full of bombast, and was the incessant object of ridicule by the critics; still, it contains a few scenes of great dramatic vigor, and Collins even places its author, as a writer of blank verse, next to Marlowe. Hieronymo has been driven crazy by the murder of his son, and in the scene with a painter, he bids him put upon the canvas all that he shall describe. It has been a favorite passage with many lovers of the Elizabethan drama.

"*Hieron.* Art a painter? Canst paint me a tear, a wound, a groan, or a sigh? Canst paint me such a tree as this? Do you see? I'd have you paint me in my gallery, in your oil colors matted, and draw me five years younger than I am. Do you see, sir? Let five years go, let them go. My wife, Isabella, standing by me, with a speaking look to my son Horatio, which should intend to this: God bless thee, my sweet son; and my hand leaning upon his head—thus, sir, do you see? May it be done? Then, sir, would I have you paint me this tree, canst paint a doleful cry?

"*Painter.* Seemingly, sir.

"*Hieron.* Nay, it should cry; but all is one. Well, sir, paint a youth run through and through with villians' swords, hanging upon this tree. Then, sir, after some violent noise, bring me forth in my shirt and my gown under my arm, with my torch in my hand, and my sword reared up thus, with these words—What noise is this? Who calls Hieronymo? Can it be done?

"*Painter.* Yea, sir.

"*Hieron.* Let the clouds scowl, make the moon dark, the stars extinct, the winds blowing, the bells tolling, the owls shrieking, the minutes jarring, the clock striking twelve. And then at last, sir, starting, behold a man hanging and tottering, and tottering, as you know the wind will wave a man, and I with a trice to cut it down. And looking upon him to find it to be my son, Horatio. Then you may show a passion, there you may show a passion! Draw me like old Priam of Troy, crying, The house is afire! the house is afire! and the torch over my head. Make me curse, make me mad, and in the end leave me in a trance.

“Painter. And is this the end ?

“Hieron. O, no, there is no end ; the end is death and madness.”

The greatest name in English dramatic literature before we reach the immediate time of Shakespeare, Ben Jonson, Beaumont and Fletcher, Webster, Massinger, and Ford is undoubtedly that of Christopher Marlowe. We find in at least three of his tragedies hints and gleams of passion and power which startle while they delight us. Everything is lawless, irregular, without method or judgment—often degenerating into bombastic absurdity—but the herculean power still remains and the passion is unquestionable. A writer in the *Edinburgh Review* says of him: “The spirit of extravagance seems to have dwelt in his brain and to have impeded him on to the most extraordinary feats, but his muse had a fiery wing and bore him over the dark and unhallowed depths of his subject in a strong and untiring flight. This poet is less remarkable for his insight into human character than for his rich and gloomy imagination, and his great powers of diction—for whether stately, or terrible, or tender, he excels in all.”

Marlowe's life-story is sad enough. Taine sums up his history in this very forcible language: “From his father's shop, crowded with children, from the stirrups and awls, he found himself at Cambridge, probably through the patronage of a great man, and on his return to London, in want, amid the license of the green-room, the low houses and the taverns, his head was in a ferment, and his passions were heated. He turned actor ; but having broken his leg in a scene of debauchery, he remained lame and could not longer appear on the boards. He openly avowed his infidelity and a prosecution was begun, which, if time had not failed, would probably have brought him to the stake. He made love to a drab, and trying to stab his rival, his hand was turned, so that his own blade entered his eye and brain, and he died still cursing and blaspheming. He was only thirty years old.”

He was the first who dared in his writings to reject what he calls “the jiggering vein of rhyming mother-wits,” and the fame of Marlowe's mighty line has not yet passed away. He seems to have been the terror of his companions, and the ob-

ject of many severe flings and sarcastic sneers. He was thought to be "a scoffer of God, and a standing monument of His justice." Thomas Beard, a zealous Puritan, in his *Theatre of God's Judgment*, held him up as a notable offender, calling him "a poet of scurrility, who, by giving too large a swing to his own wit, and suffering his lust to have the full reins, denied God and His Son, Christ, and not only in word blasphemed the Trinity, but also (as it is credibly reported) wrote books against it, affirming Our Saviour to be but a deceiver, and Moses to be but a conjurer and seducer of the people, and the Holy Bible to be but vain and idle stories, and all religion but a device of policy." Vaughan says, in recording his miserable death: "Thus did God, the true executioner of Divine Justice, mark the end of impious atheists." And Robert Greene, in his *Groatsworth of Wit*, addresses the dead Marlowe in this solemn language: "Why should thy excellent wit, God's gift, be so blinded that thou shouldst give no glory to the Giver? The brother of this diabolical atheism is dead, and in his lifetime had never the felicity he aimed at, but as he began in craft, lived in fear and ended in despair." Tamburlaine, Doctor Faustus, *The Jew of Malta*, and *Edward II.*, are his most celebrated plays. The authorship of Tamburlaine is, indeed, disputed, though from a Prologue to *The Jew of Malta*, written by Heywood, it is inferred to be Marlowe's. A passage in *Black Book* suggests that it was the work of Thomas Nash:

"The spindle-shank spiders went stealing over his head,
As if they had been conning of Tamburlaine."

In Henslowe's diary we find this passage, which seems to be conclusive: "Paid to Thomas Dekkar, 20th of December, 1597, for additions to *Faustus*, 20 shillings, and 5 shillings more for a Prologue to Marlowe's *Tamburlaine*." This remarkable drama was the first written in blank verse ever acted. Nash calls it "the swelling bombast of bragging blank-verse." The scene in which Tamburlaine is drawn in a chariot by the captive kings is well known for its absurd magniloquence, but in the same play occurs this dainty little passage, where Zenocrate, at point of death, cries:

"Now walk the angels on the walls of heaven,
As sentinels to warn the immortal souls
To entertain divine Zenocrate."

Marlowe's Jew of Malta is chiefly interesting as suggesting in the character of Barrabas the part of Shylock in "The Merchant of Venice." His philosophy, surely, is not unlike Shylock's:

"It is no sin to deceive a Christian;
For they, themselves, hold it a principle
Faith is not to be held with heretics,
But all are heretics that are not Jews."

His love of gold is as intense as that of the Jew of Venice, and he bears its loss with no more calmness than does Shylock when he learns of the manner in which Jessica has been throwing away his hard earned ducats for rings and monkeys. Some of his speeches are so strongly suggestive of Shylock's that one might fancy the cry of plagiarism would have been raised more than once at the appearance of Shakespeare's greater tragedy. For instance, Barrabas says:

"We Jews can fawn like spaniels when we please,
And when we grin we bite, yet are our looks
As innocent and harmless as a lamb's.
I learned in Florence how to kiss my hand,
And duck as low as any bare-foot friar,
Hoping to see them starve upon a stall.

His speech before the governor, who has taken from him his property, is certainly very like Shylock's pitiful cry for mercy in the court-room of Venice. The Prologue of the Jew of Malta contains this interesting passage:

"We know not how our play may pass the stage,
But by the best of poets in that age
The Malta Jew had being and was made,
And he, then, by the best of actors played.

This "best of actors," who won

"The attribute of peerless, being a man
Whom we may rank with (doing no one wrong)
Protens for shapes and Roscius for a tongue"—

is undoubtedly Edward Alleyn, who is said to have "surmounted in the Orlando Furioso of Greene, in Barrabas and Faustus, and was also the original actor of Tamburlaine.

The epilogue at court still further apologizes for any defects that may be noted in the play :

“ It is our fear, dread sovereign, we have been
Too tedious ; neither can't be less than sin,
To wrong your princely patience. If we have,
Then low, dejected, we your pardon crave,
And if aught here offend your ears or sight,
We only act and speak what others write.”

“ Doctor Faustus ” is by many critics considered Marlowe's most striking work. It doubtless contains many fine and extremely dramatic passages, and it is interesting to compare it, rude and roughly fashioned as it is, with Goethe's great tragedy upon the same subject. The story of Faust seems to have taken a strong hold upon Marlowe's mind, and his conception is wonderfully vivid and realistic, without any neutral tints or shading. His Mephistopheles lacks the cunning and *diablerie* of Goethe's creation, but he is a very terrible being, and he has no pity upon his victim. There is something absolutely overpowering in the simplicity of the formal contract with which Marlowe's Faustus signs away his soul : “ I, John Faustus, of Wittenburg, doctor, by these presents, do give both body and soul to Lucifer and his minister, Mephistopheles ; and furthermore grant unto them, four and twenty years being expired, full power to fetch or carry the said John Faustus' body or soul into their habitations wheresoever.”

In the midst of all the gloom and horror of the drama occurs this touching scene, in which Faustus, just before his doom, holds conversation with several scholars of the university, who were his friends and comrades before the evil days fell upon him :

Faust. Grammercy, Wagner ! Welcome, gentlemen !

Scholar. Now, worthy Faustus, methinks your looks are changed.

Faust. Oh, gentlemen—

Scholar. What ails Faustus ?

Faust. Ah, my sweet chamber-fellow ! had I lived with thee,
Then had I lived still ; but now must die eternally.

Look, sirs ! Comes he not ? Comes he not ?

Scholar. He is not well with being solitary.

Scholar. 'Tis but a surfeit, sir ; fear nothing.

Faust. A surfeit of a deadly sin that hath damned both body and soul.

Scholar. Yet, Faustus, look up to heaven, and remember mercy is infinite.

Faust. But Faustus' offence can never be pardoned. Oh, gentlemen! hear me with patience, and tremble not at my speeches, though my heart pant and quiver to remember that I have been a student here these thirty years. Oh! would that I had never seen Wittenberg—never read book. And what wonders have I done all Germany can witness. Yea, all the world, for which Faustus hath lost Germany and the world—yea, heaven itself! Heaven, the seat of God, the throne of the blessed, the kingdom of joy—and must remain in hell forever. Sweet friends, what shall become of Faustus, being in hell forever?

Scholar. Yet, Faustus, call on God!

Faust. On God, whom Faustus hath abjured? O, my God! I would weep, but the devil draws my tears. Gush forth blood, instead of tears—yea, life and soul! Oh, he stays my tongue! I would lift up my hands, but see, they hold 'em, they hold 'em!

All. Who, Faustus?

Faust. Why, Lucifer and Mephistopheles! O, gentlemen, I gave them my soul for my cunning!

The concluding scene of this drama has been greatly admired on account of its terrible realism and ghastly gloom. Faust stands awe struck before the thought of his horrible fate. He calls upon the "ever-moving sphere of heaven" to stand still, "that time may cease and midnight never come." As the hour draws near he cries in agony:

"Oh, if my soul must suffer for my sin,
Impose some end to my incessant pain.
Let Faustus live in hell a thousand years,
A hundred thousand and at last be saved!
No end is limited to damnèd souls.
Why wert thou not a creature wanting soul?
Or why is this immortal that thou hast."

He has awful visions of gaping hell, of adders and serpents, and with the last shrill cry,

"I'll burn my books—O Mephistopheles!"—

the wonderful creation of poor Kit Marlowe's half-crazed brain passes into the shadow.

"Edward II" an historical play, contains some very fine passages. The character of Gaveston, the favorite of the unfortunate king, is well conceived, and the story of Edward's fall from royal power to the condition of a miserable prisoner, who is finally murdered by his own subjects, is most pathetic and impressive. Says Charles Lamb: "The reluctant pangs of abdicating royalty in Edward furnished hints which Shakespeare scarcely improved in his Richard the II., and the death scene of Marlowe's king moves pity and terror beyond any scene, ancient or modern, with which I am acquainted."

Lightborn, who has been sent upon the bloody errand, arouses the poor king and tells him that he has come to murder him, though he cannot refrain from weeping at beholding Edward in this pitiable condition.

Edward. Weep'st thou already? List awhile to me.
This dungeon where they keep me is the sink
Wherein the filth of all the castle falls.

Light. Oh, villain!

Edward. And there in mire and puddle have I stood,
This ten days' space, and lest that I should sleep,
One plays continually on a drum.
They give me bread and water, being a king,—
So that for want of sleep and sustenance
My mind's distempered, and my body's numbed.
And whether I have limbs or not I know not.
Tell Isabel, the queen, I looked not thus
When for her sake I ran at tilt in France,
And for her sake unhorsed the Duke of Cleremont.

Light. O speak no more, my lord, this breaks my heart.

Edward. These looks of thine can harbor naught but death.
I see my tragedy written in thy brows.
Yet stay awhile—forebear thy bloody hand,
And let me see the stroke before it comes,
That even then when I shall lose my life,
My mind may be more steadfast on my God.

Light. If you mistrust me, I'll be gone, my lord.

Edward. No, no, for if thou meant to murder me,
Thou wilt return again—and therefore, stay.

Light. He sleeps.

Edward. O let me not die! Yet stay—oh, stay a while.

Light. How now, my Lord!

Edward. Something still buzzeth in mine ears,
And tells me if I sleep I never wake.

This fear is that which makes me tremble thus.
And, therefore, tell me, wherefore art thou come ?

Light. To rid thee of thy life. Matrevis, come !

Edward. I am too weak and feeble to resist.
Assist me, sweet God, and receive my soul.

It may be interesting to notice the estimation in which the dramas of this and a later period were held by so eminent a critic as Sir Philip Sidney, in his "Apologie for Poetrie," written in 1595. After condemning "our tragedies and comedies (not without cause cried out against), observing rules neither of honest civility nor of skilful poetry, excepting *Gorboduc*" (a stilted tragedy of the time, long since forgotten by all save antiquaries), he proceeds to a discussion of their constant violation of the "unities" of time and place ; and then says : " But besides these gross absurdities, how all their plays be neither right tragedies nor right comedies ; mingling kings and clowns, not because the matter so carrieth it, but thrust in clowns by head and shoulders, to play a part in majestical matters, with neither decency nor discretion. So as neither admiration and commiseration, nor the right sportfulness is by their mongrel tragi-comedy obtained. . . . So falleth it out, that having indeed no right comedy, in that comical part of our tragedy we have nothing but scurrility, unworthy of any chaste ears : or some extreme show of doltishness, indeed fit to lift up a loud laughter and nothing else, where the whole tract of a comedy should be full of delight as the tragedy should be still maintained in a well-raised admiration."

An acute critic of modern times says of these early Elizabethan dramatists, that they seem to indicate, in some rude way, that the drama is "going to be created." A large degree of praise might perhaps be granted to men who gave to English literature the fantastic imagery of "*Endymion*," the mingled power and absurdity of "*The Spanish Tragedy*," the wealth of thought, passion, and dramatic intensity of Marlowe's "*Edward II.*" and "*Doctor Faustus.*" These men

wrote in such a rude, simple period that a stationer, one Francis Kirkinan, in editing a drama, could write: "I believe future ages will not credit the transactions of our later times to be other than a play or romance. I am sure, in most romantic plays there hath been more probability than in our true (though sad) stories." They lived in an age of little real refinement or culture, and their writings naturally reflect much of the ignorance and coarseness of their time. But it was the hour for a great dramatic reformation, and Lyly, Peele, Kyd, Marlowe and their compeers were, assuredly, the heralds of the dawn.

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- ART. VI.—1. *The Works of Alexander Hamilton*. In 7 vols. New York.
2. *The History of the Republic of the United States, as traced in the writings of Alexander Hamilton*. In 7 vols. By JOHN C. HAMILTON. New York.
3. *Reminiscences of James A. Hamilton, or Men and Events at Home and Abroad during three-quarters of a century*. New York.
4. *The Second Volume of the Elliot Debates of New York Convention*.
5. *Life of Alexander Hamilton*. By JOHN C. HAMILTON. In 2 vols. New York.

IN the presence of a great assemblage of the citizens of New York, who were gathered in front of Trinity Church to pay the last honors to the mortal remains of Hamilton, "I charge you," said the eloquent orator of the day, Gouverneur Morris, "to protect his fame; it is all he has left; all that these poor orphan children will inherit from their father." This was in July, 1804, and seventy years are now gone by since that event; and those sons are still living, some of whom have largely contributed to protect the fame of their father, by

writing his life and editing his works. Indeed Hamilton's works would not have been so well collected and his life so well known except by the industry of his children, as well as by the exertions of his widow, who survived him fifty years. Gouverneur Morris was Hamilton's friend, and on that sad occasion he poured out his own sorrow in praise of the dead, and he foresaw that it was necessary to protect Hamilton's fame.

Hamilton died and there was no longer a wise and great leader of the Federal party; for Washington was no more; and Jay and John Adams had withdrawn from political strife. There were many clever men, but there was no first-class statesman who had the position and ability to guide and direct the Federal party, founded and cemented into a solid organization under the lead of Hamilton and Washington. So with the death of these great leaders, and the success of the Republicans from 1800 to 1824, the Federal party had wholly disappeared. Indeed, it became weakened and broken up, as a great national party, after the war of 1814, because of its sturdy opposition to it, although very many of its leaders supported the war themselves. Thus disappearing as an organized party, Hamilton, whose policy and fame were so identified with its existence, suffered in America a temporary eclipse, just as Clay and Webster now suffer by the obliteration of the Whig party which was founded by and disappeared with them. However, as there is no existing party organization that commenced in that age, save the party refounded by Jackson, all statesmen of the past have lost their hold upon the present, except the Democratic party, which claims to have been founded by Jefferson. So, with these party disruptions, Hamilton, the great rival of Jefferson in the administration of Washington, did not find a party to keep up his fame like Jefferson and Madison; but his genius and renown survive the changes of time, and his works remain inwrought in the federal constitution as well as in the policy of the government, even to this day; far more than all others, his was the great organizing mind of America.

Indeed, when we look back and see young Hamilton coming

alone from a West India island, to seek better opportunity for an education, and after short preparatory study entering King's College in the city of New York, now known as Columbia College; then witness how soon he mastered the controversy between the colonies and the mother country, and his alertness to throw himself into the contest by organizing an artillery company with the last remnant of his patrimony, in which he bravely led during the first year of the war; and when we know that this youth of nineteen had attracted already the attention of Greene and Washington, and that his cannon had kept the enemy at bay in many hazardous retreats in face of the British army, and thus by its courage his company had been reduced from 1,200 to 25 men; we discover why he had been sought in vain to join the staff of two major generals, and only yielded to such a request from the commander-in-chief, whose staff he joined in 1777, as aid with the rank of lieutenant-colonel, and where he remained as a trusted secretary until 1781, when he resigned the position, with the regrets of Washington. Suffice, that during this period he performed great services, for he had a ready and clever pen and an intuitive judgment to direct it; he had besides rendered great service in his expedition to Gates and Putnam who had not sent a portion of their forces to the main army as Washington had directed; and his address made him favorite with the French, whose language was his mother tongue, for his mother was of French descent and was buried in the Island of Nevis, where Hamilton was born. So, after such services rendered under the eye of Washington, he resigned and sought a position in the line where he could still do the country some service and gain distinction for himself. He formed a plan and led the desperate assault at Yorktown, where he and the ancestor of Hamilton first scaled the redoubt, and took it by the vigor and impetuosity of their assault. As the war soon closed, Hamilton returned to Albany and commenced the study of the law, and was admitted to the bar after a few months' reading; and he then settled at the city of New York, where he soon entered upon the practice of his profession. Certainly it would seem

that this was not a flattering opening, thus cut off in his college course, and such a very brief study of his profession, in which it is said he mainly studied the forms and practice of the law. But his army experience brought him friends and success in his profession, while the old lawyers were, by an act of legislature, disbarred, unless they could show a satisfactory certificate of fidelity to Whig principles during the late contest. This gave the soldiers of fortune like Burr and Hamilton, the actual lead in business in a very short time, in the city of New York. Other laws were also passed to confiscate the property of all loyalists and prevent the collection of British debts, which acts Hamilton struggled against and finally obliterated by the decisions of the courts, through his instrumentality, for he immediately grasped great principles and struggled against retaliation in all its forms. Many of those proscribed made up a purse, but Hamilton refused it; and said, patriotism was not to be paid for. Many intemperate and violent men proclaimed that the inhabitants who had remained within the enemy's lines were not entitled to the privileges of citizens, and that they were, in fact, aliens, subject to penalties and disabilities such as the legislature might impose. Hamilton published two pamphlets, under the signature of Phocion, addressed to the citizens of New York, and insisted on the obligations of the treaty, and that no portion of our citizens was disfranchised, but that all were entitled to the full benefit of equal and impartial laws.

In 1782 he was elected a member of congress by the legislature of New York, and at its next session its proceedings were stamped with a marked character. He was the chairman to provide a sinking fund to pay the national debt, and to answer Rhode Island on the five per cent. impost. He was chairman of a committee to make a report on the non-compliance of the states with the requisitions of congress and the failure of revenue, and on the necessity of measures to fund the debt and retrieve the debt of the nation; he was also one of a committee of three which, in 1783, reported an address from congress to the several states, calling upon them, by motives of duty, interest, and gratitude, to vest congress with

the power to collect a general impost, as the only means which they could discharge their sacred engagements. He moved the disbanding the army, and that they take their arms with them. He seconded the move, that it was important every free country that the men who conduct affairs should be publicly known, and that congress in future ought to be opened unless otherwise specially ordered. In 1786 he was chosen a member of the assembly by the city of New York and he then brought forward a measure acceding to the dependence of Vermont, and he spoke on this and the measure of five per cent. impost to be yielded to the confederative government. He exerted all his influence to have the state entered into the project first moved by General Schuyler in 1777 through his suggestion, that a convention should be called together, of all the states, to frame a national government, to take the place of the confederation. Hamilton appeared at the assemblage of Annapolis, and though he was not on the committee, he wrote the address that was issued for the purpose of calling a general convention to frame a stronger government. He was one of the three delegates sent by New York to the Philadelphia convention that convened in May, 1787, at which was framed the federal constitution. New York had been, through Hamilton, the earliest to propose a general convention of the states; and then came Massachusetts, and finally Virginia assented. Virginia, after vainly trying to regulate her commerce with the adjoining State of Maryland, finally, in January, 1786, passed resolutions inviting states to send deputies to a general meeting for the purpose of considering how far a uniform system of taxation in their commercial intercourse and regulations might be necessary to the common interest and permanent harmony; and to report an act relative to this great object, which, when ratified, would enable the United States, in congress assembled, effectually to provide for the same. Thus this movement of Virginia was purely in reference to establishing a uniform and just system of commerce; and when a full deliberation was had at Annapolis, the more comprehensive views of Hamilton prevailed, and a convention was thus called to revise the articles of confederation.

federation and establish a more perfect union of the states. In many letters to public men, to Duane, Robert Morris, and Washington, Hamilton had, as early as 1780, and onward, pointed out the faults of the confederation, and urged the necessity of forming a national government by means of a general convention of the states. He certainly took the lead in this great measure, and impressed his views upon the old congress and the legislature of New York, for a period of some seven years before the constitution was formed in 1787. Some papers were published, and others made like suggestions, but Hamilton was the uniform and persistent leader in this project to form a new and more energetic government over these states. Yet it is due to say that New Jersey had extended her commission to Annapolis, beyond the mere regulation of trade and commerce, to a general provision for the exigencies of the union. A recommendation for this enlarged purpose was drafted by Hamilton in the address, urging a general convention of the states to meet at Philadelphia next May. This became more imperative, for the reason that only five states had thus convened, and they came with too limited powers, as well as with too small numbers, for the framing of a new constitution, or even for the revision of the articles of confederation. Thus the great project of revision was defined, and the states were requested to extend the powers of their deputies to other objects than those of commerce, which was an improvement on the original plan by the State of New Jersey. Thus the states of Virginia and New Jersey were important movers of the convention that framed the constitution of 1787, and the state of Virginia submitted the plan most considered by that august convention. Mr. Madison, in the introduction to the debates in that national convention, gives a brief history leading to the convention that framed the constitution. He alludes to the publication of a pamphlet in 1781, at the seat of congress, by Pelatiah Webster, in which he suggested that the authority of congress was very inadequate to the performance of their duties, and he indicated the necessity of their calling a continental convention, for the express purpose of ascertaining, defining, enlarging and limiting the duties and powers of their

constitution. In 1784, Noah Webster proposed, in his writings a new system of government, which should act, not on the states, but directly on individuals, and vest in congress full powers to carry its laws into effect. Notwithstanding these and possibly many other suggestions, it was after all Hamilton who first and constantly kept up the idea, as he said in congress in 1783, that he wished, instead of a partial, to see a general, convention take place, and that he should soon, in pursuance of instructions from his constituents, propose to congress a plan for that purpose, the object of which would be to strengthen the federal constitution. He alluded to the resolutions passed by the legislature of New York in the summer of 1782, that the confederation was defective, and that it would be advisable for congress to recommend to the states to call a general convention to revise and amend the confederation. All the states but Rhode Island responded to this recommendation of the convention of Annapolis, and sent delegates to the Philadelphia convention. Governor Randolph, at the opening of the convention, submitted what was afterwards known as the Virginia plan, and Charles Pinckney submitted his plan of a federal constitution, which appears even fuller than the original Virginia plan, and of a like national character. These plans were submitted in May.

Mr. Charles Pinckney proposed a government of supreme legislative, executive, and judicial powers, under the style of "The United States of America." This was to be in the name of the people of the thirteen states, and they were to "declare ordain and establish the following constitution for the government of ourselves and posterity."

It was provided that the legislative power shall be vested in a congress to consist of two houses, which shall meet every year; that the house of delegates shall be chosen every year by the people of the several states; that the senate shall be elected and chosen by the house of delegates; and that they shall choose, by ballot, senators from among the citizens and residents of each state, and the senators were to be classified, and the three classes were to serve for blank years, and as their term expire the delegates were to fill them up by election; each

state was to prescribe the time and manner of holding elections by the people for the house of delegates, and the house was to be judge of the election returns and qualifications of their members; that the members of each house should be paid by the states that they represented. It was provided that all acts made by the legislature of the United States pursuant to this constitution, and all treaties made under the authority of the United States shall be the supreme law of the land, and all judges shall be bound to consider them as such in their decisions. The senate shall have power to declare war and make treaties, to appoint ambassadors and other ministers of foreign nations, and judges of the supreme court, and shall have exclusive power to regulate the manner of deciding all disputes and controversies now existing, or which may arise, between the states respecting jurisdiction or territory. It was also provided that, to render these prohibitions effectual, the legislature of the United States shall have the power to revise the laws of the several states that may be supposed to infringe the powers exclusively delegated by this constitution to congress, and to negative and annul such as do.

On the 15th of June Mr. Patterson, and on the 18th Mr. Hamilton, submitted their plans accompanied by elaborate speeches. Mr. Patterson laid before the convention the plan which several deputations had concurred in submitting in the place of that proposed by Mr. Randolph. It was agreed to be referred to a committee of the whole and also the Virginia plan, and they were considered section by section in the convention. This Jersey plan had been concurred in by New York, New Jersey, Delaware, and perhaps by Mr. Martin of Maryland, who made common cause, though on different principles. New York and Connecticut were against any departure from the principle of confederation and New Jersey and Delaware were opposed to a national government because a national government required proportional representation. The eagerness displayed by the federatives began now to produce alarm for the result of the convention. Mr. John Dickinson of Delaware who had drawn many of the great state

papers of the first and second congress, and in whose handwriting the articles of the confederation remain in the department of state, said to Mr. Madison :

“You see the consequences of pushing things too far. Some of the members from the small states wish for two branches in the general legislature and are friends to a national government, but we would sooner submit to foreign power than submit to be deprived, in both branches of the legislature, of an equality of suffrage, and thereby be thrown under the domination of the larger states.”

This sentiment expressed the feeling of the smaller states, and Rhode Island being assured of her advantages as an independent sovereignty declined to send delegates to the convention, and refused to accede to the constitution until congress passed acts of exclusion and repression against her. The small states under the federation had the same powers as the large states in all its workings, and refused any arrangement not based on state equality. This became the great question of the convention, on which it soon divided, and there appeared at one time little hope that the antagonisms could be composed. This Jersey plan now presented fully developed the wide difference between the two classes of states, although New York by a perversity of politics, and by force of her situation as an importing commercial state, took sides with the small states, and declared that the convention had no power under the commission to consider what would be the best constitution, for they were restricted to a mere revision of the articles of the federation. Hamilton, in the pride of his prophetic genius, took no such limited view of the duties of the convention; and when his colleagues, Yates and Lansing, withdrew from the convention, he had the courage to remain and identify his name with the constitution and its final adoption. Mr. Hamilton, in presenting his own views, said that he had been silent on the business before the convention, partly from respect to others whose superior abilities, age and experience rendered him unwilling to bring forward ideas dissimilar to theirs, and partly from his delicate situation with respect to his own state, to whose sentiments, as expressed by his colleagues, he could by no means accede. This crisis which now marks our affairs is

too serious to permit any scruples whatever to prevail over the duty imposed on every man to contribute his efforts for the public safety and happiness. He was obliged therefore to declare himself opposed to both plans. He was particularly opposed to that from New Jersey, being fully convinced that no amendment of the confederation, leaving the states with their sovereignty, could possibly answer the purpose. He agreed with Mr. Randolph that we owed it to our country to do in this emergency whatever we should deem essential to its happiness. The states sent us here to provide for the exigencies of the union. To rely on and propose any plan not adequate to these exigencies, merely because it was not clearly within our powers, would be to sacrifice the means to the end. The great question is, what provision shall we make for the happiness of our country? He would first make a comparative examination of the two plans, prove that there were essential defects in both, and point out such changes as might render a national one efficacious. After speaking upon the nature of republics to foreign influence and corruption, and that men of little character acquired great power, citing the saying of Necker that the British is the only government in the world which unites public strength with individual security, he inquired what is the inference from all these observations, and answered that we ought to go as far, in order to attain stability and *permanency as republican principles will admit*. He said let one branch of the legislature hold their places for life, or at least during good behavior. Let the executive also be for life. But is this a republican government it will be asked? He answered yes, if all the magistrates are appointed and vacancies are filled by the people, or a process of election originating with the people. He thought if the executive held for only seven years he ought to have but little power, for he would then be ambitious, with the means of making creatures, and in such a case he might even prolong his power. He said an executive for life has not this motive for forgetting his fidelity, and will therefore be a safer depository of power. He said, in answer, that such an executive would be a monarch for life; that it would then follow that

they proposed a monarch for seven years. The circumstance of being elective was applicable to both, for life or for a definite term.

He remarked also that federal government meant an association of independent communities into one; that in some instances the powers were exercised over collective bodies, others over individuals, as in the German diet. He thought mere federation of community tended to anarchy. He was aware that he was in advance of most members, and after making one of the greatest speeches ever heard in that convention, he read his sketch of a constitution, which he said should prefer to either of the plans under consideration. He concludes by saying that the people are advancing, and will not be satisfied at stopping where the plan of Mr. Randolph would place them; that they would not be satisfied in stopping short of what he proposed. He did not offer the paper he had read as a proposition to the convention, it was meant only to give a more correct view of his ideas and to suggest the amendments that he should probably propose to the plan of Randolph in the proper stages of its future discussion.

The distinctive features of the Virginia plan were that it provided for a national government with two legislative bodies and the second branch of the national legislature was to be elected by the first, out of the proper number of persons nominated by the state legislatures—that each branch had the right to originate acts—that they were to legislate in all cases in which the separate states are incompetent, to negative all laws passed by the several states, contravening, in their opinion, the articles of union—that the national executive was to be chosen by the national legislature. This plan had for its main object to secure the common defence, liberty, and general welfare, and declared that the rights of suffrage in the national legislature ought to be proportioned to the quotas of contribution, or the number of free inhabitants, as the one or other rule may seem best in different cases; and Madison said he regarded the indefinite power to negative legislative acts as the states as absolutely necessary to a perfect system, experience had evinced a constant tendency in the states

encroach on the federal authority, to violate national treaties, and to infringe the rights of each other, and to oppress the weaker party; and a negative was the mildest expedient that could be devised for preventing these mischiefs. And in order to give the negative this efficacy, it must extend to all cases. In a word, said he, to recur to the illustrations borrowed from the planetary system, this prerogative of the general government is the great pervading principle that must control the centrifugal tendency of the states; which, without it, will continually fly out of their proper orbits, and destroy the order and harmony of the political system. Mr. Pinckney, of South Carolina, also remarked that this universal negative was in fact the corner-stone of an efficient national government. Mr. Wilson also held that one of the vices of the confederation was the want of an effectual control in the whole over its parts. During this earnest struggle for the equality of the states in the proposed compact and proportional representation on the other, it was proposed by Judge Brearly that a map of the United States be spread out, that all the existing boundaries be erased, and that a new partition of the whole be made into thirteen equal parts. Dr. Franklin remarked that up to this present debate, concerning representation, the debates had been carried on with coolness and good temper, and he hoped if anything of a contrary kind has on this occasion appeared, it would not be again repeated, for, we were sent here to consult, not to contend with each other, and declarations of a fixed opinion and determinations not to change it, neither enlighten nor convince us.

He said he did not see what advantages the greater states could propose to themselves by swallowing up the smaller, and therefore he did not apprehend they would attempt it. He illustrated this by the fears of the Scotch patriots at the time of the union with England, unless they had an equal representation, and yet said he, though Scotland has but forty members of the commons and sixteen of the lords, I do not recollect that anything has been done in parliament to the prejudice of Scotland, and he said that the North Britons enjoy at least their full proportion of emolument. He sug-

gested that the seven smaller states might, on the contrary, swallow up the large states; but finally said that an honorable gentleman hinted a proposition of equalizing the states, and which appeared to him an equitable one; and, he added, for his own part, he would not be against such a measure, if found practicable. He thought, however, that another mode might be more easily carried into practice and more permanent in its nature, by letting the weakest state say what proportion of money and force it is able and willing to furnish for general purposes and let all the other states oblige themselves to supply an equal proportion. The whole of these supplies to be at the disposition of congress, and congress to be composed of equal delegates from each state, and their decisions to be by the majority of individual members voting. He further proposed, if these joint supplies should not be sufficient, then congress was to make requisitions upon the richer and more powerful states, for further aid, to be by them voluntarily afforded, and leaving them the right to withhold their aid and of giving more or less as they should find it proper. Dr. Franklin enforced his proposition by remarking that the colonies never withheld these voluntary contributions in aid of the mother country until she resorted to force, and then we refused and resisted. He thought, therefore, that their voluntary aid on particular occasions would not be refused by the states. Such were some of the conciliatory suggestions of Benjamin Franklin, than whom no greater sage sat in that august convention in the last year of his life, at a time when he was too ill to stand and deliver his speeches, of great brevity, and which were usually read by his colleague, Mr. Wilson. Dr. Franklin had brought about the Albany Congress in 1754 for the union of the colonies, and which failed, and his large experience among men and his diplomatic missions during the revolution had taught him the importance of not pushing differences too far, and of the supreme wisdom of conciliation and harmonious adjustment. Thus he was truly the magnet of that convention, and yet it was fortunate that we had in that convention such spirits as Madison, Wilson, Randolph, King, the Pinckneys, the Morrisses, who saw clearly the fatal

of preserving the principles of the old federation in the proposed constitution. Among these, Alexander Hamilton's boldest conception of the absolute necessity of a strong government, and in many of his ideas Madison, Gouverneur, King, and Wilson fully accorded with him, as to the ends and elements of a constitution. Hamilton was the first to depart from the federative plan presented by Patterson, which was supported by Lansing, Yates, Martin, Mason, and others, and which proposed that the articles of confederation should be revised and enlarged so as to render the new constitution adequate, as it alleged, to the exigency of government and the preservation of the union. It provided that congress be authorized to pass acts for raising revenue by laying a duty on all goods, merchandise of foreign growth, and manufactures imported into any port of the United States, and postage on all letters or packages passing through the United States post-office, to be applied to such federal purposes as congress shall deem proper and expedient; to pass acts for the regulation of trade and commerce, as well with foreign nations as between each other; that when requisitions should be necessary on the United States, in congress, be authorized to make such requisitions, in the proportion of the whole number of white and free inhabitants, and three-fifths of all other persons, and to direct the collection thereof in the non-complying states, and to pass laws for that end; to elect a federal executive, to consist of one person, and to continue in office for the term of four years; to establish a federal judiciary, to hold during good behavior—that is, to hear and determine all impeachments in the first instance; that all acts made by congress, or treaties made or entered into, shall be the supreme law of the respective states, and the judges of the several states shall be bound thereby, notwithstanding any law in the state laws to the contrary notwithstanding; that if any state, or body of men in any state, shall oppose the execution of such acts, the federal executive shall be authorized to call forth the power of the confederated states to enforce obedience to such acts. Mr. Hamilton spoke upon the Virginia and Jersey plans, and he denominated both federal plans, and he said such are the lessons which the experience

of others affords us, and from whence results the evident conclusion that all federal governments are weak and distracted. To avoid the evils deducible from these observations, we must establish a general and national government, completely sovereign, and annihilate the state distinctions and state operations; and unless we do this, no good purpose can be answered. He afterward explained that he would not destroy the states, but he would make the national government able to support itself without the aid or interference of state governments, and that therefore it was necessary to have full sovereignty. Even with corporate rights, the states will be dangerous to the national government, and ought to be modified or reduced to a smaller scale. Such was the general view of Hamilton as to the kind of government the convention ought to make; and he further said that he agreed with Mr. Wilson's remark, establish a weak government and you must at times overleap the bounds. He did not favor, however, the proposition of Charles Pinckney, who advocated a negative in congress on state laws, and which Madison favored. Hamilton proposed that the supreme court shall have jurisdiction in all controversies between the United States and a particular state upon all the constitutional questions that are involved, and that the governors of the states should be vested with the veto power, and be appointed by the general government. He proposed that the president should be for life, to give stability to the government, and he was to be chosen by the people, through electors. He afterwards, in the final draft of the constitution, moved that the term of the president be made for three years. He proposed that the constitution be finally submitted to the conventions of the several states to be chosen by the people; he proposed the liberal method of naturalization, very nearly as adopted. He proposed that representatives, except in the first instance, should be chosen by the free male citizens and inhabitants of the several states, all of whom, of the age of twenty-one years and upwards, shall be entitled to an equal vote. This was very much in advance of that age, and such men as Sherman and Mason were not quite up to that. Property qualification to vote was general in the states, and the new constitution left

is qualification to the laws of the states. He proposed that all citizens who should hold lands, or in the right of their wives have any estate in lands, should vote for senatorial electors; and the states were to have proportional senators, no state less than one senator, and to be divided into electoral districts. The plans of New Jersey and Virginia gave the house the right to choose the senate, and the latter gave the election of president to the national legislature. Pinckney did not say in what manner the president should be chosen, and the Jersey plan was also silent on that point, the proposers merely indicating by it what they held to be vital as to the nature of the federal government they proposed. Hamilton constituted the president of the senate as executive when the president ceased to act.

Hamilton's plan was never submitted by him to the convention, except as it was read by him to give exactness to his views; and we say now that the constitution embraces more of his provisions and even language than the Virginia plan, which the convention followed in merely a national form, but not in language and in substance. Indeed, there is more taken from the plan of Charles Pinckney than from any other, except Hamilton's. The legislative power is almost drawn from that of Pinckney, and we are surprised that the convention could have preferred the Virginia over the outline of Pinckney. At the constant amendments and changes in the committees left little of the Virginia plan in the constitution. The convention finally struck out the word national, on the motion of Ellsworth, from this form and called it the United States and the general government. It left out proportional suffrage and contribution. It rejected the article that the senate ought to be elected by the house; it also proscribed the dangerous provision "*to negative* all laws passed by the several states intravening, in the opinion of the national legislature, the articles of union or any treaty subsisting under the authority of the union, and to call forth the force of the union against any member of the union failing to fulfil its duties under the articles thereof." It also rejected the resolution that the "national executive" be chosen by the "national legislature." The

Jersey plan contributed almost nothing to the constitution and its resolve as to the federal judiciary, and as to the authority of the United States to be supreme over the states were of like character as those suggested, and more nearly followed from Hamilton's plan. Hamilton's plan was adopted as to the oath of the president on assuming office, and as to his duties, except it did not adopt his restriction that the president shall not take an actual command in the field of an army without the consent of congress, and the further restriction that if he should depart out of the United States without the consent of congress he shall thereby abdicate his office. The constitution follows closely his plan as to the jurisdiction of the supreme court, the enacting style of the laws, attainders, fugitives from justice, rights of citizens of states; as to the guarantee to each state of a republican form of government to each state; and protect each state against invasion, etc.

Thus, briefly, we have looked at the plans of a constitution before a national convention at Philadelphia, but there is more difficult task to look at the whole work of the convention inclusive of its journal and remaining sketches of the debates and determine who contributed most to the present constitution. The Randolph plan was discussed and reported amended, and this formed the basis of the convention, and that Mr. Pinckney's and Mr. Patterson's were referred to a committee of detail, and reported by Mr. John Rutledge, its chairman. And again the report was debated in the committee the whole, and on the 13th of August Hamilton came back after an absence from the 29th of June, and again participated in the debates, though New York had no vote during the latter part of the convention, by reason of the withdrawal of Judge Yates and Mr. Lansing after the so-called national plan had been agreed upon in convention.

Such parts of the constitution as have been postponed, and such parts of reports as have not been acted on, were referred to a committee elected by ballot, consisting of Mr. Gilman, King, Sherman, Brearly, Gouverneur Morris, Dickinson, Carroll, Madison, Williamson, Butler, and Baldwin. After the constitution had thus gone through many changes and amendments

ments in the convention, it was finally moved that a committee of five be appointed to revise its style and arrange the articles agreed to by the convention, which passed, and Dr. William Samuel Johnson, Alexander Hamilton, Gouver. Morris, James Madison and Rufus King were appointed by Washington, that committee. Then it was Dr. Johnson from the committee who said that we have revised and arranged the constitution, and the report was delivered at the secretary's table and printed copies of it were delivered to the members.

This last finishing touch gave definite form and clearness to the constitution, and doubtless all members of the committee contributed to that result, but it is allowed that the clear style of Morris is felt in every part of the constitution. Morris said in a letter to Timothy Pickering, in 1814, that he wrote that instrument, and, having rejected equivocal and redundant terms, he believed it to be as clear as our language would permit, excepting, nevertheless, a part of what relates to the judiciary, and on that subject it became necessary to select phrases which expressed his own notions and would not alarm others, and this part passed without cavil. Mr. Madison, in 1831, wrote Mr. Sparks, "that the finish given to the style and arrangements of the constitution fairly belongs to the pen of Morris; the task having been probably handed over to him by the chairman of the committee, himself a highly respectable member, and with the ready concurrence of the others. A better choice could not have been made, as the performance of the task proved. It is true that the state of the materials, consisting of a reported draft in detail, and subsequent resolutions accurately penned, and falling easily into their proper places, was a good preparation for the symmetry and phraseology of the instrument, but there was sufficient room for the talents and taste stamped by the author on the face of it. The alterations made by the committee are not recollected. Those, verbal and other, made in the convention may be gathered from the journals, and will be found also to leave that merit unimpaired."

It was at this crisis of gloom and uneasiness that were produced by the intensity of the strife on both sides on the

great question between the large and small states, that Dr. Franklin moved that the convention be hereafter opened with morning prayers and urged that it had too long neglected to beseech the source of all light while they were laying the foundations of the state; and he added, "I have lived a long time, and the longer I live, the more convincing proofs I see of this truth, that God governs in the affairs of men. He said, I firmly believe this, and believe also, that without His concurring aid we shall succeed in this political building no better than the builders of Babel. We shall be divided by our little, partial, local interests."

It was then that Hamilton and several others expressed their apprehension that however proper it might have been at the beginning of the convention, now it might lead the public to believe that the embarrassments and discussions in the convention had suggested this measure; and it is related that Washington manifested great uneasiness to the opposition to this measure, and it has been said that a dark frown passed over his face.

It has been a constant accusation that Hamilton favored the absorption of the states; but however strong he deemed it necessary to make the federal government, he certainly never supported the measure embraced in the first drafts of the constitution, giving the federal government power to negative all state laws, and which even Madison held to be vital to the system. Hamilton had seen with what tenacity many men clung to a feeble federation, and he saw that a vigorous national government was indispensable to keep us together, and prevent anarchy among the states. Madison, Wilson, Gouverneur Morris, and King held, in the main, to the same national principles, and Randolph, Pinckney, Sherman, and Dr. Franklin, as also Mason, Ellsworth, Gerry, Martin, Rutledge, Lansing, and Patterson, equally impressed the convention with their opinions and arguments, while Gorham, Yates, Carroll, Robert Morris, Dickinson, and Johnson, with Washington, exercised great influence in the convention. Dr. Johnson, of Connecticut, the chairman of the committee on the style and arrangement of the constitution,

said of Hamilton, during the debates, that he had been praised, but not followed; and Hamilton said, in the closing debates, that he had been restrained from entering into the discussions by his dislike of this scheme of government in general; but as he meant to support the plan to be recommended, as better than nothing, he wished, in his place, to offer a few remarks. He said, that to elect the president for seven years, and make him ineligible afterwards, having great powers in appointing to office, and continually tempted by his constitutional disqualifications, to abuse his powers to subvert the government, he thought some other mode of election necessary. He opposed every scheme to elect a President by congress or the senate. He thought these influences might corrupt congress, and make the president a monster. He supported the election of president by the people alone. Indeed, no statesman kept more near to the people in the elections than Hamilton, for he proposed to give a proportional basis to the senate, as well as the house, and elect the president, senate, and members of the house by the people themselves. Mason, Sherman, Madison, and Gerry kept not so near to the people in these great offices; but for senators he required property qualifications to elect. None in the convention opposed that qualification, and most, if not all, refused this election to the people, and vested it in the state legislatures. Thus, it must be allowed, that there has been much ignorant criticism upon the great principles of Hamilton's plan, because he proposed to elect a president and senators for life, making these offices of the same tenure as the judges of the supreme court of the United States.

To found a government has always been esteemed one of the most difficult labors devolving upon mankind. To build a structure that shall be lasting, it must be framed according to the spirit of the age and the people for whom it is intended. Its form and character must arise imperceptibly during a long period of its history, or if struck out at a heat like the American constitution, it must partake strongly of the idiosyncracies of the people who thus make it. If we trace the history of all known governments, we comprehend that

their difference of structure has arisen from differences of circumstances. Without exception, governments have grown to be what they are; and in an exact philosophical sense Mackintosh was right, when he said, "nations grow, they are not made." Still, in this country, from an exigency of government, we were obliged to strike out a new frame of government almost at a blow, in order to supply the loss of the mother country in 1776. So our new constitutions thus arose, and we have been ever since construing and harmonizing them into what we call our American system of government, and the public mind has not always been stable as to the exact limit between state and national powers, although there has never been the slightest vacillation as to the character and form of the government itself. In England the constitution was founded in tradition, and was centuries in forming. Indeed, we cannot tell at what time, it had its rise, and not precisely when it assumed its present shape. We know that it grew gradually through centuries, and new layers were injected into its formation by conquests and revolutions. Above all, in the more civilized period, there have been great changes effected in the English Constitution by parliamentary reform, so conquest, revolution, and gradual reforms have effected salutary changes in the original structure of the English government, and doubtless revolution and dissatisfaction will effect serious changes in the character of the American government itself. It is likely, however, that this government will remain of a federative form, such as the founders made it, until revolution or public opinion shall demand a change. That feature of our government, entirely new, was this peculiar federative government with powers vested in the general government to construe and preserve itself. The federal form had existed last in the Republics of Holland and Switzerland, and the local powers neutralized and destroyed the central government in both countries; and Holland became a prey to distraction and anarchy. With all the lessons of the past, we struck out a new device, to hold and preserve the system as one government, without destroying the sovereignty of the states. The convention of 1787 framed this constitution that

makes many in one, and yet holds them in their character of separate communities. But this was not the sole work of that age, and of the statesmen who then directed the councils of America. They first had to achieve independence, and then secure it under a constitutional government, wisely formed and enduring. This was the more immediate work of Hamilton and Madison, and the men who came together in the Philadelphia convention of 1787, in which they led.

In this great work of founding a government for America, Alexander Hamilton took the lead and achieved the greatest results. He certainly had but one competitor in founding the constitution, and he was James Madison. Hamilton was the first to discover the necessity of a national government, and did more than any other man to lead public opinion to that conclusion; but in the convention, the reports of Yates and Madison would give the latter a greater continued lead in debate; howsoever, it is known that Hamilton did much, though he was much younger, and did not so frequently participate in the debates where his own youth contrasted with the age of men like Franklin. Besides this, he did not admire the Virginia plan, even with its numerous improvements, and finally withdrew from the convention for some weeks.

After the convention submitted their work to the people for adoption it was assailed by many able writers in the journals of the day. Among these essayists there was Richard Henry Lee, who opposed it in congress and wrote ably against it. DeWitt Clinton, then a rising young man, gave it vigorous blows, and wrote articles against its adoption. Lounds, of South Carolina, gave strength to this opposition, and the states rights men formed clubs, which had their centre in New York, for the purpose of circulating writings against the constitution. General Lamb became here an able and active co-operator.

It was at such a juncture that Hamilton formed the plan of the Federalist and procured the aid of Jay and Madison to give it their united support. These papers were commenced in October and were continued till the assembling of the New York convention the next June. To ratify it Hamilton took

the brunt of the work upon himself, and wrote the larger part of that work. There has been long an uncertainty as to the exact numbers that Hamilton and Madison contributed; suffice that which each then did gave them great fame as publicists, and it is an enduring renown, as their essays are still held as of the first order of exposition of the constitution, and they are the sole collected contemporaneous commentary upon the constitution, and having been written to explain and enforce the plan of the constitution and its particular powers, the *Federalist* in general character is practical and theoretical as well. We enquired of a late editor of the *Federalist* if it were possible to divine who wrote the disputed essays from their style, and he remarked that it was quite impossible to tell which came from the pen of Madison or Hamilton. Though we have read the *Federalist* and *Helvidius* and *Pacificus* we have not essayed to analyze this problem of style and character. The study of their known essays present no very marked similarity of style, as it seems to us, though in their characteristic thinking there is more in common in the *Federalist*. In general knowledge they seem about alike, and in cleverness of argument they have each left the most clever papers of their day, and they have not been surpassed in this age for depth and solid thought. Hamilton's reports as secretary of the treasury and his best political essays are not inferior to anything of an American character. His essay by *Pacificus*, and *Helvidius* by Madison, show their peculiar styles; that of the former shows genius and solidity of thought and argument, while the latter is not inferior as an argument and is lucid and clear. Their styles are direct, sentences carefully constructed, and no attempt at fine writing. Each impresses us as though he meant business and had no thought of parade. Hamilton has, if anything, more precision and closer logic, yet in fullness of matter Madison is his equal, though, as we think, he possessed not the same intuition and unerring comprehensiveness of statesmanship, neither was he so rapid and clear-sighted an organizer of the practical workings of a state, though as a writer and publicist he is nearly his peer. But they, in conjunction

with John Jay, gave us the Federalist ; and perhaps none of the public men of that age did so much to bring public opinion to the adoption of the present constitution. Indeed, we may say that, without Jay, Livingston, and Hamilton, New York, and Virginia, without Madison, Randolph, and Marshall, would each have rejected the constitution, notwithstanding the names of Franklin, John Adams, and Washington gave great weight throughout the country to its adoption. The opposition of Virginia became very powerful through Lee, Mason and Henry, the last of whom exercised a potent spell in the Virginia convention against its adoption, and came near defeating this great measure. In New York the eloquent voice of Livingston and Hamilton, together with the solid virtues of John Jay, finally carried the constitution to adoption, though it is known that this great state was in character and sympathy for the rejection of the constitution, and nothing could have changed the convention of New York, but the realizing sense that this instrument had been adopted by sufficient of the states to leave her in case of rejection an isolated state, and it was the policy of those great men of New York to not reach a final vote in the convention till they could learn of its adoption by New Hampshire or Virginia, whose conventions were all sitting at the same time. Hamilton kept up a rapid communication between these important states, and was the first to learn that the constitution had been ratified by New Hampshire, she being the last state to decide the final dismemberment of the confederation, and the complete establishment of the new government. In that convention Hamilton took a decisive lead, and ever answered the arguments of its foremost opponents. Surely he, Jay, and Chancellor Livingston were more than equal in debate to Melancton Smith and the states rights party, led by George Clinton, who was president of the convention. It is seldom that any public man ever appears upon any theatre of affairs so fully prepared to meet all questions as Hamilton and Madison, by means of their having just written the Federalist. Indeed, able as was Melancton Smith, it was felt by all that Hamilton came full armed and ready for any encounter. His speeches, now im-

perfectly preserved, as were all the debates of that day, show the maturest study and most weighty arguments that could be advanced upon every subject debated in the New York convention; and from being an infrequent speaker in the Philadelphia convention, he became on this stage the foremost organ of the constitution, and perhaps, not excepting Livingston, its most eloquent advocate. So we may say, to him mainly do we owe the adoption of the federal constitution by the State of New York; and yet neither this state, nor the metropolis which his genius has done so much to build, has but a faint sense of the obligation they are under to the prolific genius of Hamilton. Hamilton and De Witt Clinton have made New York, and yet their monuments are nowhere seen amidst a wilderness of riches and pedestals raised to foreign names. But intellect and culture in public life know full well that they were the creative men of that age, and that their works die not with them.

The union was first inaugurated under the administration of Washington, without the co-operation of Rhode Island and North Carolina. At the city of New York, at Federal Hall, the then capitol, standing on the site where now stands the sub-treasury, Washington was inducted into office as the first president of the United States. After Chancellor Livingston administered the oath the president stepped forward facing Broad street, at the junction of Wall and Nassau, and delivered his inaugural, while the first characters of the revolution had assembled to bid all hail to the new republic. Washington had, through years of service, reached his fifty-eighth year, and the frost of winter had whitened his noble brow; and his form had not lost its manly beauty; while a generous age had softened and blended in him every grace of the hero. If ever man deserved this high honor for heroic and distinguished achievement, it was Washington; and he finally laid down this high office with the same grace with which he had sheathed his sword. That spotless integrity, that wise and discerning action, which always distinguished him in former years, remained with him to the last, and guided his remarkable eight years' administration of the government to the very

end. He appointed John Jay to fill the place of chief justice of the United States, whose character was as upright as justice herself. He appointed Thomas Jefferson to be secretary of state and conduct the foreign relations. He appointed John Knox, as a soldier, to be secretary of war. He appointed Edmond Randolph his attorney-general, and he chose Hamilton for secretary of the treasury. Under these chief officers, he set the government in motion. It was, indeed, the peculiar fortune of Washington to be called to serve the country in its greatest exigencies—in times of revolution which required a steady hand and strong character, in times of inaugurating a new government which required the same firmness if not equal judgment, to put the nation in a prosperous condition, and leave an example to instruct and guide future ages. These ends he achieved, through many perplexities and discouragements; for it was reserved to him to blend all the virtues in his career, and leave to the world an example without a parallel, a great career without selfish ambition.

Indeed, the condition of the country required all this elevation and wisdom to avoid foreign complications, and give stability to the government at home; besides there was a strong feeling existing against the adoption of the constitution in nearly every state, and it is quite probable that a majority of the American people were set against it, and only accepted it because it was the best they could get at the time. Even Franklin, Washington, Hamilton and Madison favored its adoption on this ground; and for the reason that it was a great improvement on the confederation, then quite ready to break asunder. The federation went into operation in 1781, and the continental congress governed from 1775, without any constitution but the Declaration of Independence, and it was unfortunate that the confederation was adopted by the states, after it had hung up for nearly four years, before it was accepted, and became the rule of federal government. During the war the states were kept in harmony by its pressure upon them, and the country being exhausted in its resources had no vitality, and no recuperative force under that federation, and it was gradually realized by statesmen, who had best

known the defects of that system, that the country would so be prostrated by a government barely existing in name, without power to keep up a continuity between the parts. Under this autonomy, without a soul, disintegration was taking place, although many ardent patriots were blind to its many defects. Perhaps there never existed in any free state a form of government so feeble for any national purpose. It had not force enough to sustain itself, or preserve its feeble power over thirteen sovereign states. The proof of all this accumulation is shown when the country became vitalized by the healthy touch of the new constitution that went into operation under Washington in 1789. Thereafter there was a great, miraculous change that came over the country in all its interests, and in every part. Indeed, we have misread the history of that time if this change did not commence with the adoption of the constitution, and went rapidly on to the end of Washington's administration. Much, very much, of this renewed prosperity came from the great measures of his administration, and very much of this was vitalized by the genius of Hamilton.

The circumstances of the country, as well as the new measures inaugurated, contributed to this regeneration. Under the confederation the staple interests of the country had lain dormant and stagnant, and state and national credit were utterly prostrate. As we have said, under this system there was an attempt to retain a form of union without conceding the means to establish one. It was the first experiment to accomplish better things, and was a mere transition from revolution to constitutional government. It was an attempt to reduce to practice a peculiar form of government, known as a pure federation between states; and it utterly failed, because it had no strength nor vital energy as a political organization. It also failed, because of the jealousy of the states, and their indifference toward a common and general good. The several states acted toward each other like independent sovereigns rather than as one homogeneous people, withholding from each other what they could upon any pretence retain to themselves. There was one congress doing every thing. There was

executive department, nor judicial department. The states voted as a unit, as a majority of state deputies directed. They disputed as states with each other, and not as now, dividing and voting against themselves. They had fought for liberty, and thrown off British rule, and they were not at once to trammel themselves by any great limitations on their sovereign power. The people hugged the delusive phantom that they must rely upon the states to protect their great liberties, having forgotten that they only achieved their independence by one common effort, and union of all in 1776. And, as an able writer has said: "The idea of concentrating a new power, co-extensive in some respects with that which had just been thrown off, was not a very acceptable one, and it was nothing but the slowly extending consciousness of the deplorable state of things that was occurring, by the reason of the absence of it which gave it any credit." It had made a common debt, and citizens and states were largely indebted. There was no movement of the industries of the people, and there was no liquidation of these demands. There was little accumulated capital, and we had a large foreign debt, and no means to even pay the interest on it. The people were staggering under these burdens, and with no power to set the industries of the country in motion to create and vitalize these dormant forces. It was this embarrassment, and the contention of states as to their trade and commerce, that impelled the people to adopt the new constitution, and try the experiment of a stronger government. At this time there was a danger of social discontent, arising from this unfortunate condition of affairs, and they were uncertain in which way they were to find a remedy.

It was not a propitious time for those patriots who had struggled through the revolution, and suffered every hardship, to witness this distress, and to see no compensation for all this endurance, and behold the people sinking down into discontent and wretchedness. Everywhere was gloom, and our foreign allies beheld this with mortification, and our enemies were looking on with mingled pleasure and satisfaction. These distresses and actual grievances preceded and led to the constitution. Since the revolution cultivated lands, in most of

the states, had fallen from twenty-five to fifty per cent. In those further south, in consequence of the scarcity of money, the fall was so considerable they almost commanded no price whatever.

Hamilton drew order out of this chaos, and his management of the affairs of the treasury created a new order of things. The great principle of Hamilton was to restore or rather create public credit, fund the national debt and develop the resources of the country. He, as secretary of the treasury, made four distinctive reports on the public credit, national bank, the subject of manufactures and the establishment of a mint. To these we have his opinion on the constitutionality of a bank, made by the request of the president, and in answer to the adverse opinions of the attorney-general and secretary of state, Thomas Jefferson and Edmond Randolph. These reports and opinion embraced his policy of government and the principles on which he would conduct it. He estimated the national debt at \$34,124,464.56; and the state debt was estimated at \$25,000,000, inclusive of interest. He had to provide annual interest on the domestic and foreign debt, \$4,587,444.81. He estimated the current expense for the year 1790, at \$600,000, and the interest on the national debt, not providing for the state debts, at \$2,839,163. At this time the foreign debt was nearly \$12,000,000. It was proposed by all to pay the foreign debt in full, but many urged that the domestic debt should be met by paying such sums as were paid by the present holder; and as most of it had been purchased at reduced rates they should receive the same with interest. Thus in effect there was a strong party in favor of repudiation and not discharging it as it had been contracted. This same party also opposed the assumption of the state debts as proposed by Hamilton. This debt had been made by the states to carry on the war, and Hamilton thought it wise and more just to consolidate this with the national debt. He finally carried this by giving the seat of government to the South. This was arranged by Jefferson and Hamilton, at a dinner given by the latter for that purpose, and it is a little questionable whether this arrangement was not made at too great a price, as Wash-

ington never was really a proper seat for the government of the United States. At least he carried that part of his great plan in giving the states not so largely interested in the state debt, the national capital. But the remaining measures of national bank, honest payment of the debt in full, met serious opposition. By funding the debt, and paying dollar for dollar, with the accumulated and unpaid interest, he expected to restore the public credit and put it on a basis by which it would be gradually liquidated. He funded the debt, established the national bank, whereby he created a solid currency, and soon the national credit revived and the resources of the country began to be developed. He said in his report on public credit, in 1790, that good faith and punctual performance of contracts are the sole basis of public credit; and in this, states are like individuals who observe their engagements. Political and moral considerations urge good faith in the payment of the debt, which was the price of liberty. A general belief prevails, he says, that the credit of the United States will be quickly established on a firm foundation of an effectual provision for the existing debt. He says that this influence has increased the value of the public securities at home. Indeed, they rose in consequence, from January to November, thirty-three and a third per cent., and from that period to this time they had risen fifty per cent. more, and the intelligence from abroad announced effects proportionally favorable to the national credit. When it is remembered that we were unable to pay the interest on the foreign debt, this sudden change of values shows that there was a master financier at the head of the treasury who was working this miraculous change by the adoption of a few solid and honest principles which revived the public credit and gave renewed hopes to 4,000,000 of men, who now saw that the sun of their prosperity was rising in the east, and ere it should set would illuminate and make happy the whole land.

He held that a funded debt is an object of established confidence, and that it answers most the objects of money if properly funded; the transfers of stocks are equivalent to payments in specie, or in the principal transactions of business

passes current as specie. So he alleged that a funded debt contributes to relieve the scarcity of money, and hence becomes a substitute for money, and prevents a pernicious drain of our cash from the channels of productive industry. He insisted also that there ought not to be any discrimination between the original and present holders of the debt by purchase. He prevailed, and the result is known all the world. The principles he urged to maintain public credit were not more sound and judicious than those he urged to develop the resources of the country; for without a healthy and sustaining industry to give vigor and strength to a people there are no enduring elements to sustain the credit of a nation. Hamilton placed his faith on the activity, and frugality and economies of a people self-sustaining in production and manufactures. He knew that agriculture so far away from European markets, and with so costly interchanges to its coarse materials, would prove a great hinderance to our development and would constantly drain our specie from the country to meet foreign obligations. So he urged the development of manufactures and he favored such measures as would lead to develop the manufacturing power of the country. Hence the report on manufactures by Hamilton will always be regarded as a production worthy of the fame of a great statesman, and we think it may be called his masterpiece. It certainly will rank alongside of his first report on public credit and his opinion of the constitutionality of a bank, for depth and soundness of views. It is at once comprehensive and exhaustive as an argument.

Hamilton not only exercised this sway in his special department; but, when foreign complications arose, he was consulted and looked to by Washington whose principles and judgment were to be followed as to our foreign relations with France. He wrote the proclamation of neutrality, and those able papers in its defence by Pacificus. Indeed, his talents in these great exigencies of the country saved and preserved it from any serious dangers, as he always succeeded in impressing Washington that his was the just and true policy. He thus satisfied him as to the right of neutral

and the constitutionality of a bank, and these measures were stubbornly encountered by James Madison, and the latter by Jefferson, himself. Indeed, it seemed to be fated that on all great measures of administration Hamilton was to wield the pen on one side, and Madison on the other; and yet when Jefferson came into power, in 1800, he directed his able secretary, Albert Gallatin, to report on the great measures adopted by Hamilton, and after a searching examination, he found nothing, as he said, to correct; and during the latter part of the administration of Madison, he adopted all the measures founded by Hamilton, thus proving that his policy was based on the wants and demands of the country. The policy of encouraging American industry and the reestablishment of a national bank was adopted by the Republicans, while some Federalists were then found in the opposition, thus proving that each party in power will support measures that they oppose when out of power; or as Brougham said, "The Whigs were Tories in power, and the Tories were Whigs when out of power." But though the party of Hamilton was on the wane, in 1816, yet his great measures were engrafted on the policy of the party led by his great rival, twelve years after Hamilton's demise. This was an endorsement of the foresight and policy of Hamilton, without any qualification whatever. Thus verified as to his internal policy, we may leave that without further elaboration; for these principles were called in question when first advanced by Hamilton in 1790.

The French complications became so entangled and so overbearing in 1798, that an army was created, with Washington as its general, and Hamilton, his faithful lieutenant, serving to him in command, at his own request. Indeed, he would not return to the service except that Hamilton should hold the ranking position after him, notwithstanding Knox and Pinckney had been distinguished 'generals in the revolution. Hamilton took the field, applied himself to military studies, with his accustomed vigor, and soon the death of Washington left him in chief command of the American forces; but Adams having renewed negotiations with France, against the judgment of the great Federal party, it soon

brought peace, and war was averted. Hamilton resigned the army and again resumed his profession at New York, frequently interrupted during his career. It is believed that he had every element of a great general, and only needed opportunity to make his fame. Suffice that he was selected chief of the army in its organization and its movements; and a war with France was, in 1798, a trial with veterans of seven years' war with combined Europe, and this selection must ever redound to the great talents of Hamilton who had only held the rank of colonel in the revolution.

Hamilton never more held public office, after his retirement from the treasury, in 1796, and the army in 1799; he escaped not censure and accusation of the opposition, his enemies, after the most searching examination made at own request, vindicated the purity and uprightness of American secretary, though James Monroe and Venable Virginia, after his retirement from office, allowed or permitted some letters of his to be published, involving him with Reynolds, in what was charged to be an improper speculation in the public funds. In consequence of this breach of faith by some of his enemies, he published a pamphlet in 1798 acknowledging how the letters were procured and completely vindicating his public career from any charge of speculation in the public funds, and least of all with such a low fellow as Reynolds, who had been arrested by the treasury department for subornation of perjury, and was not released though he had made threats to expose a high officer in the treasury department. Hamilton feared no exposure, though he might wish to conceal an intimacy with Mrs. Reynolds as then unknown, painful to admit, but necessary to his vindication. He explained the anonymous letters, held by his assailants and published to defame him. His explanation was never again called in question, and the money received by Reynolds was the consideration of his speculation in his wife's honor.

The scene at Weehawken, where Hamilton fell in a duel on the west bank of the Hudson, became a national calamity. We have stood upon the spot and contemplated what Hamilton was, and what he might have become in the war of 1812,

long lived; for he fell at the age of 47, and had died about the same age as Pitt, who died in 1805. It has seemed to us that there were many resemblances in the life and character of these two statesmen, except that one went his way as an adventurer in the world, carrying his own fortune with him, while the other was born to fortune and to a name. Both rose to the first rank as secretaries, and became distinguished as soon as they reached manhood. Washington was a great ruler of men and of parliament, while the other created a nation. Pitt was an able financier, and it has been said that he borrowed some of his ideas from Dr. Price, and drew from the financial policy of Hamilton. Both were great orators; but Pitt had the finish of an English university, while Hamilton looked through a subject and not to ornament.

One failed as a war minister, while the other had the order of military talent. Pitt belonged to a great nation, and held a great place in his age; while Hamilton helped to lay the foundations of the model republic, which claims him for the greatest genius in her whole history as an organizer of government. Indeed, while America has had a Clay, a Jackson, a Van Buren, a Tyler, and a Calhoun, they cannot rival Hamilton in the variety of resources, ever peering, like the eagle, through the thickest cloud to the end of his flight. Clay had abundance of talents, and unlimited resources in administration, and possibly in conducting a government he would have been equally able to perform the actual management of an organized state; yet we do not say that he did not equal Hamilton in general principles in the depth of his genius in foreseeing their tendency. Hamilton is strictly the profound publicist and able jurist rather than an elegant and embellished writer or speaker, such as Burke, Pitt, or Everett. He had a fine style of writing, full, terse, and perspicuous, modelling after the Addison era, possessing more attraction, however, for his matter and thought than for mere style. His essays never attract us for their elegance and rhetoric, and yet for didactic instruction, we do not know how he could attain a better style. He is never forgotten because of his eloquence, in the same sense we peruse the works of Webster, or any first class orator; yet we know

we have nothing of all his speeches, but that made in the Crosswell case, that is tolerably reported. The speeches at Philadelphia are brief and unsafe outlines of Yates and Madison, who had a knack of sketching or jotting down thoughts rapidly in their own way. They were not reporters any more than was Dr. Johnson, who did not hear many of the speeches he wrote. So we must judge Hamilton by his own extensive and most valuable writings on politics, to very little of which we have been able to draw attention. Hamilton's writings are valuable to the statesman and the philosopher, for they were all produced upon an occasion demanding exposition of some great measure, as his *Continentalist*, written to explain the necessity of a stronger government; the *Federalist*, explaining the nature of our constitution; *Phocion*, vindicating the Jay treaty; and so all his writings were produced for some particular occasion that always gave them a practical character.

But in leaving the works of Hamilton we are impressed with the fact, that at the age of twenty-three he suggested the necessity of a bank and a national government, and at thirty-three he developed his great policy as secretary of the treasury, and finished his political career at thirty-eight years of age. Such a career shows how marvellous a man he was especially when we consider him as a soldier, jurist, writer, publicist, and statesman. He certainly has had no parallel in this country, considering his age, and he may challenge comparison with the financiers of any age, when we reflect that he became secretary at a time when the country was a barren waste, and the preceding congress went home without the pay, because there was nothing in the treasury. By the simple touch of his masterly hand the dormant interests of this young republic sprang suddenly into life, and reinvigorated and strengthened every pulse of national life and every branch of national industry. This, with his early forecasting the necessity of a national government, and his early suggestion that led to constituting certain departments to take the place of committees, under the old congress, and the necessity of a national bank urged upon Robert Morris, in 1781, prove his profound and practical originality as a statesman.

His speculative opinions and his admiration for the British government have been spread out by his enemies to prove that he was a monarchist, and wanted to establish such a government in this country. Even Jefferson has done much to disparage Hamilton's republican principles in this country; but that age of partizan hate and rivalry is gone, and we can now make historical examination as to those times, and the men of that age with some degree of justice, if not with soberness. In this connection it is due to say that Jefferson has made similar charges upon Washington, and most of the leaders of the Federal party, and particularly Hamilton. He has even chronicled second-hand gossip about the private conversations of these men touching this question, and left these accusations in his *Ana* to slander the dead. Jefferson, certainly, was not sparing to his rivals, nor very careful not to speak falsely, or act disingenuously toward his neighbor. This was a failing he exhibited toward Washington and Hamilton; thus proving that he possessed not their high sense of honor, nor their openness of character. So he picked up dinner rumors, and put them down in his *Ana*, as important scraps of history, to show that the federalists were trying to convert the government into a monarchy. If Jefferson had been a bold statesman like John Adams, he would not have held so equivocal a position as to leave it in doubt by his admirers in Virginia whether he favored or opposed the adoption of the constitution, and his friend Madison would not have had occasion to explain his position to the Virginia convention. But as to Hamilton's admiration of the British constitution, he may in that respect stand with Montesquieu, Necker and many of the greatest foreign statesmen and philosophers, and so we should say that it was not so much a crime to share such an opinion with them, as it was some evidence of soundness as a practical statesman. Indeed, it has been claimed by many of the greatest writers on government, that a limited and constitutional monarchy is the best form of government, because it combines the three features of other governments—monarchy, aristocracy and democracy. Aristotle, Bolingbroke and Edmund Burke have held these opinions; and Hamilton wanted to have an execu-

tive for life, elected by the people, impeachable for misconduct, and to be tried before a high court composed of the chief justice of each state, in order to combine the same disinterestedness of a king, and when the convention made his tenure seven years, and thereafter rendered him ineligible, he said this would lead to corruption and usurpation, and then he preferred to make the term three years, and not ineligible. But Hamilton, however much he may have admired, never in his life wrote or said that he was for setting up a monarchy in this country; on the contrary, he maintained that we had not the elements for such a government, and though he had misgivings as whether a people could establish and carry on a successful public for any great length of time; yet he said, at all times *he was for giving it a fair trial*. He shared these fears with Washington even, who was too honest to hide his apprehensions. And Jefferson said that a republic could not be maintained except by a people fitted for it; and hence it might be argued that Jefferson was a monarchist, and had no faith in man for self-government, upon the same principle that he accused them.

Suffice, that Hamilton fought for our liberties, and to this in are we indebted in a large measure for our present security as a nation. Behold him from the age of seventeen taking up the pen for these states, and ever exerting his powerful talents and that pen when any wrong was to be averted or any good attained for his country, without fee or reward. What inspired him to write the Federalist during eight months' labor, but that he might advance the country by the adoption of the constitution; such labors freely given prove the disinterested character of Hamilton; for though he had frailties common to his race; yet we know no statesmen more just, possessing higher honor, combined with love of country, than Alexander Hamilton. His life and his death prove that he possessed unbending integrity and honor without a stain, and he fell rather than retract what he believed to be just and true of Aaron Burr.

But it is said that he was a consolidationist, and would centralize the government! Hamilton always held that the

principle of a federative republic tended to, and would end in anarchy. Madison shared this opinion, and so wrote in the *Federalist* and spoke in the convention, where he was a great centralizer, as is proven by his own report of the debates. So these two great fathers of the constitution stood together, and many men like Wilson, King and G. Morris stood with them; and it was said that Morris was the only leading member who did urge a complete consolidation of the government. Hamilton never did propose to destroy the states, but he said they ought to be diminished to mere corporations, to centralize a strong government. He thought it would possess more energy, more durability, and that it would be expedient to have one strong government, with municipal rights in the states, rather than to have too weak ones, ever contending with each other. It may in time prove that Hamilton was correct, for he was only one step in advance of those who went from the confederation to the constitution. One or two centuries may prove that it is necessary to make a stronger and more economical government. We by no means think that Hamilton was wrong in this. Indeed, we see already the absurdity of thinking that forty states can be more relied upon for good and sound laws and administration than one centralized legislative body, composed of the first men of the whole nation. Would Great Britain or France possess so judicious a code of laws as they now do if divided into some thirty or forty departments, and each department was invested with exclusive right to legislate as to the rights of person and property, and to leave parliament only power to make general laws as to the foreign relations and internal regulation of trade and commerce between the departments? But the convention did not accept his plan, and he finally supported the plan agreed upon by the convention, and did more afterwards to carry it to adoption than any member of the convention, not excepting Madison himself. Indeed we may say, therefore, the plan of Hamilton was nearer a consolidation than the constitution, and yet it was a federation of the states as well as the present constitution. The *Federalist* was so named by him, to indicate the nature of the constitution that the writers of *Publicus* supported,

and Hamilton adhered inflexibly to the clearest interpretation of the constitution; and the opinion upon the bank, and upon the proclamation of neutrality and the Jay treaty prove how firmly he adhered to all the limitations of the constitution. No one can read these writings, which are commentaries upon the constitution, and then venture to accuse Alexander Hamilton of being a centralizer by interpretation and perversions of the constitution. Suffice, that his opinions and writings have been the guide to the interpretation of the federal constitution by all great lawyers and judges since the foundation of the government; and so if he went wrong he has led with him the bar of America and the supreme court of the United States; and so he has certainly kept in good company, and his fame is safe from the accusations of the ignorant and from the chicaneries of the demagogue. While the constitution remains we shall always turn with profound adoration to the genius and purity of Hamilton; and feel that to him we mainly owe the elements of strength and durability which now exist in our government. His name will remain associated with those of Madison, Marshall and Webster through coming ages, as the great expounder of the nature of our peculiar form of government, and here his fame must endure.

ART. VII.—1. *Œuvres Complètes de Montesquieu. Avec des Notes.* Paris. 1846.

2. *The Politics and Economics of Aristotle.* Translated by EDWARD WALFORD, M. A. London. 1843.

THE progress of human government is but another term for the progress of mankind. The coronation oath of the prince, with its solemn forms and invocations, does not repress, in the heart of majesty, the desire for personal aggrandizement; and the vows of a people to subordination, whether expressed in the servile homage of the vassal, or in

the elaborate promises of written constitutions, are in themselves vain to secure permanent obedience. The mere form of government can never constitute a vitalizing or preserving force. Its excellences and defects are but representatives and exponents of corresponding virtues and vices in the ruling mind.

Had rulers been true to the dictate of right, and people wise and moderate, how bright might have been the now dark page of history! How certain and how salutary might have been the progress of nations in an advanced and still advancing civil liberty! In the rude ages of society, government would necessarily have assumed some form of monarchy where accident would have determined the chief, and voluntary assent constituted the binding force of law. As society progressed, at once yielding to and promoting a demand for broader principles, government would next have incorporated an aristocratic element. Ever viewing itself as an instrument for public good—keeping pace with popular advancement—and, as the growing virtue and intelligence of the people rendered it safe and beneficial so to do, expending, relaxing, liberalizing itself; when time and experience had established the proper safeguards, it would have adopted the form of a universal representative democracy. Wherever the people sighed for a brighter destiny, it would have stricken off its fetters. Wherever the nation's mind was aroused to activity, instead of inciting to rapacious and barren conquest, it could have directed the national energies to the establishment of ameliorating institutions, the enactment of liberal laws, and the attainment of a purer civilization. Guarding all that was sacred, which prescription had accumulated from the struggles of the past, adding all that was valuable which a philanthropic philosophy could discover in present circumstances, it would have been retarded only by the delay in the development of national capability, would have culminated only when the national intelligence had reached its acme, and would have declined only when national virtue began to decay.*

* De la création du gouvernement, de la fin pour laquelle il est institué,

But, with a keen disappointment, we turn to the historical development of constitutions. Instead of principles and rulers selected from a judicious regard to the common interests, we find that force has inaugurated governments, and established dynasties. Instead of a uniform and uninterrupted progress, we find, for the most part, gloomy inaction or vacillation between a blind acquiescence in tyranny and the destructive tumult of monarchy, and even where governments have most advanced, instead of a complete system, devised by inquiring reason and adopted by far-sighted judgment, we find that *successive generations*, composing often distinct races, and laboring in widely separated periods of time, have been the artificers of beneficent constitutions, united and made co-workers by the continued flow of existence and events, and that *individuals* have wrought blindly, and upon fragments, and have contributed unconsciously to the slowly-growing completeness of a whole, whose prototype existed only in the bosom of God. One by one political rights have been gained.

The facts* of constitutions have preceded their philosophy. Their principles have been adjusted, not in the calm regions of speculative reasoning, but amid the conflict of real forces, relief from pressing evils, and not the enjoyment of conjectural good, has been the object of constitutional innovation. Though the patriot, welcoming self-immolation, has sometimes rested serenely on the immutable rectitude of the great doctrines for the vindication of which he was about to perish,† and a nation, in the enthusiasm of new-born freedom,

dérivent les principes suivants: 1. Le prince est établi pour l'exécution des lois, 2. Le seul devoir du prince est de pourvoir à leur exécution; 3. Il n'a de droits légitimes que ceux qui dérivent de ce devise; 4. Il ne peut substituer sa volonté privée à la volonté souveraine sans usurpation.—*Encyclopédie Moderne*, tome xvi., p. 591.

* Plato's ideal "republic" is an instance of theoretical speculation not founded on actual facts. "It is true that a man may sketch out an ideal state as he pleases, but yet it ought to be something possible. It is said that when a legislator frames his laws he should have two things in view, the country and the people."—Aristotle's *Politie*, book ii., chap. vi.

† L'amour de la patrie conduit à la bonté des mœurs même à l'amour de l'

has sometimes put forth formulas whose generosity of sentiment and generality of application left little for disinterested philosophy to desire, the result has ever been, that the citizen under operating constitutions has in vain looked for protection from the truths founded only in the reason, and has enjoyed those rights, and those alone, which had an ancestry and pedigree in the collective experience of mankind. Philosophy may have expanded and multiplied the application of principles, but the principles themselves found a place in constitutions by a process coming not from thought but from life.

That such must be the origin of salutary constitutions; that the process by which they are evolved must be sought in history and not in metaphysics, in the connection and consequences of palpable events rather than in abstract conceptions and logical deductions, is evident from the complexity of the relations to be established, and the vast, and at the same time delicate, offices to be performed. In the establishment of constitutions two processes are involved—that of construction, and that of incorporating them into national life.

The constructive process consists in determining the organs and apportioning the functions through which government will act. The grand aims of the government must be established. But by what standard shall philosophy fix this aim? "Whither shall I carry the nation to?" is the question philosophy must ask herself at the outset of her labors. Is her wisdom commensurate with this ordaining national destiny?

But how much is comprised in the apportionment of sovereignty. The duties of each office must be fixed, the grand duties of the executive, the legislature, and the judiciary, and the smaller, but not mean duties, of the many inferior stations necessary to complete the organization of government. Rights must be defined and, by some practical form, secured, not only the great rights which are indispensable to a tolerable civil

patrie. Moins nous pouvons satisfaire nos passions particulières, plus nous nous livrons au générales.—*De L'Esprit des Loix*, par Montesquieu, livre v., chap. ii

Quand un peuple a de bonnes mœurs, les lois deviennent simples.—Montesquieu, liv. xix., c. xxii.

life, but the smaller rights which are the chief enjoyments of private life. This sovereignty must be distributed so as to be shared by such classes of persons and to such an extent as is authorized by the capacity of the proposed participants. It must not be divided so minutely as to result in weakness, nor be so consolidated as to render it absolute. It must have such a connection with the actual life of the citizen as shall furnish the means of its own conservation and progress. The highest statesmanship must declare its utter inability to create ~~the~~ us by a single effort the stupendous organism of a state, ~~and~~ animate it with the energy of life.

But provided a constitution had been derived and logically perfected, the scheme in its manifold and complex details could find no avenue to a nation's mind. The argument ~~by~~ which its superior excellence might be demonstrated to a nation of philosophers would be meaningless to the popular intelligence. Principles must grow, and mature, ~~and~~ strengthen, in the minds of men, before they can acquire power, noiselessly and unseen, to protect and restrain each member of great and prosperous communities. Abstract theories of government lack flexibility and universality of application. They are good for the mind that conceived them, but useless for the masses. To be of great utility, they must, by some means, be amplified and qualified, so that, too high for none, too low for none, they shall fit the necessities of the times.

There is still another obstacle which must offer more or less resistance to philosophy seeking to inaugurate government. A constitution must fix the tenure of property, and regulate the mode of its alienation and descent. Where a considerable portion of national wealth consists of land, the readiness with which it can be conveyed, and the line of its descent by inheritance, will determine the form of government. If long entails be sanctioned, and the principle of primogeniture be adopted, vast estates, descending and accumulating in families will create a landed aristocracy, which will, to a greater or less degree, possess itself of hereditary power, while if the broader principle be established of transmitting property

qually to heirs of the same degree, and if entailments be prohibited, property will so frequently change hands and be so widely distributed, that equality of condition—or rather of opportunity—will be well nigh universal, and inequality will be incapable to be perpetuated save by corresponding enterprise and industry. Thus a lasting barrier would be set up to all caste springing from wealth.

But in man the love of property is inherent, powerful, universal. Hence, except in the very dawn of the political existence of a nation, and in the unformed and plastic institutions of a newly discovered or newly conquered country, property will have been appropriated and the rights of holders vested. Habit, existing institutions, and immemorial usage, will have developed a passion which nature implanted. A veneration for ancestry and a regard for posterity, stirring in the bosom of the representatives of families, will give an element of generosity to what otherwise would be a sordid desire for continual personal significance. Amid such influences, the gentler entreaties of philosophy would be powerless to effect a voluntary surrender of possessions. An appeal to government, with a view to obtain a peaceful transfer, would meet with no better success. For in government, the voice of hereditary wealth would be potently exerted to preserve itself from political extinction. The question then is decided. The ancestral domain, with its sorrowing tenantry, will descend intact until, when reality presses too heavily, it will be divided by means of that instrument never invoked by philosophy, but to which the oppressed must ever resort—the sword.

If we examine history, we find that religious and political truths have been wrought into national mind only by time and event. The history of the Jewish theocracy strikingly illustrates the difficulty with which nations can be made to comprehend abstract truths. The constitution of Moses differs from all others, in that it was promulgated by divine authority. The Jewish nation had been chosen and set apart for the purpose of introducing and perpetuating spiritual truths. They had been delivered from bondage by a series of miraculous interpositions, in which changing elements, and

darkness and death, had struck terror to the hearts of their oppressors, and brought assurance to them. They had been preserved from recapture by that passage through the divided and uplifted waters of the sea. They had been conducted by the "cloud" and the "pillar;" but so little had they perceived the hand of the living God, as it were, visibly outstretched—so little had the abstract notion of Deity as a spirit entered into their minds, that they could, with wanton mirth, offer worship to an idol of gold.

Notwithstanding all their discipline, slowly and even at last imperfectly; did they comprehend the nature of their exalted mission, and the sublime event in which it was to terminate. They had enjoyed a constitution which revealed a pure religion, and contained a code of morals and a system of jurisprudence. The authority of that constitution had been established, and during its early period maintained, by awful tokens of the divine sanction. Their wilderness journey, their enjoyment of the promised land, their captivity, their restoration, their long line of prophets, their types and ceremonies—all these influences, scattered and continued through two thousand years, still left them, as a nation, grovelling in the expectation of a Messiah as a merely temporal prince.

Nor did Moses, acting under the direction of God, give any place in the theocratic system to the doctrine of the immortality of the soul. Though seeking to control not only the conduct but the thoughts of his followers, he made no reference to the rewards and punishments of the future world. Did not a divine economy reserve this doctrine till man, by long familiarity with spiritual ideas, had acquired the capacity to grasp and appropriate it in its fulness and purity; so that when mind and language had been prepared to receive it, bursting from the open tomb of Him who was the "resurrection and the life," it might complete the circle of religious truths, uncontaminated by the grossness of heathenism or mythology.*

* La force principale de la religion vient de ce qu'on la croit; la force des lois humaines vient de ce qu'on les craint. L'antiquité convient à la religion, on, parce que souvent nous croyons plus les choses à mesure qu'elles sont plus re.

Nor do the political systems of Greece, as far as their origin can be traced, disclose any principles but such as were the slowly-growing result of the vicissitudes of a nation emerging from barbarian to a sensuous civilization. Their so-called lawgivers seem to have introduced only such changes as turbulent and contending interests necessitated. Both Solon and Lycurgus were summoned to political importance by the violent strife of factions. Their measures were remedial. The small extent of territory of their several states caused the existence of evils to be immediately felt; and, while the absorbing devotion of the Grecian mind to the interests of the state, viewed as a moral person and not as a mechanical instrumentality, was prolific in heroic character, it was also a powerful auxiliary to needed political reform. The wisdom of the sages was exerted not in speculative intention, but in the interpretation of, and co-operation with, the spirit of past and passing events. Their aims were but the aims of Greece. The end for which they wrought was not an approach to ideal excellence, but an escape from threatening misrule; the means which they employed were furnished by experience and not speculation. In the Mosaic and Grecian constitutions, as history has handed them down, the student finds all squares enlivened by the pleasing hue of popular freedom, but in the several squares it is graduated and intermingled with other and darker colors in such varied degrees as to show that each and all were tinged, not in accordance with theory, but by the spirit of widely-diversified local facts.*

Rome, considered as the seat of government, had a growth guided by the same principles as Rome the inhabited town. A few fishermen's huts grew to be a vast metropolis, in which

alées. . . . Les lois humaines, au contraire, tirent avantage de leur nouveauté qui annonce une attention particulière et actuelle du législateur pour se faire observer.—*Esprit des Lois*, l. xxvi. c. ii.

* John Stuart Mill, in his *Principles of Economy*, book ii., chap. ii., claims that the entail of the bulk of one's property upon a child or children is not to be defended on moral grounds. It would be better, he thinks, if land were occupied for a season only and periodically redivided as population increased.

rose and frowned the architectural magnificence of the world. An adventurous fratricide, surrounded by an assemblage of fugitive slaves, established a centre around which was to be formed a system of jurisprudence of unequalled breadth and precision. It is not more certain that the streets of Rome were laid out, and from time to time increased as convenience dictated, than that the materials of her constitution were contributed, and its construction and frequent reconstruction controlled, by the facts of her history. All through her course, from the time when she emerges from the mists of myth down to her inglorious decline, the great law manifested in her political institutions is, that at all power seeks to dominate in government, and will do so except as it is checked and controlled by some other power.* While the constitution of the Roman commonwealth kept alive the leading idea which Greece developed—that political power resides in the people, expanding or contracting as the excited plebeians or the grasping patricians gained an increased influence—it contained little that could foster individual liberty. A crowded population, acting directly and collectively, could never develop a system of personal rights. Hence Rome made but little advance in civil liberty. Her republicanism was a failure, for the reason that the genius of a nation, however transcendent, can, in government, only reproduce principles which circumstances have established or disclosed. Another nation, under more auspicious circumstances, was to realize a constitutional destiny which had been denied to her.

The nation called to this elevated career was the English. On a distant island, "in the extremity of the world," a train of causes was being set in motion, which was to develop a new civil liberty. This liberty was to contain all that Greece

* Now in all states there are three particulars in which the careful legislator ought well to consider what is expedient to each form of government—and if these are in a proper condition the state must necessarily prosper—and according to the variation of each of these one state will differ from the other. The first of these is the assembly for public affairs; the second, the officers of state, and the third, the judicial department.—Aristotle's *Politics*, b. iv., c. xiv.

and Rome had bequeathed, and was to add a new element, viz., the protection of individual, personal rights. The valorous native Briton, the mystery-loving Druid, the fierce Saxon, the viratical Dane, the conquering Norman, and, above all, the Roman, bearing the immortal hopes and liberalizing influences of christianity—all participated in the grand work of preparing English minds and English institutions for such a conservative progress and progressive conservatism as should make continued advance at once possible and safe.

The great features in the progress of British institutions are the constitution of parliament, the growth of jurisprudence, and the restriction of the royal prerogatives. An assemblage of barons and bishops, originally convoked to advise with the king, was the germ of parliament. Additional knights, from shires, and deputies from the burroughs, summoned to strengthen the throne of an illegitimate monarch, formed the beginning of the house of commons. The right of the commons to petition expanded till their assent became a prerequisite to the enactment of laws. They then strided forward as an aggressive power, and maintained that taxation and representation were inseparable. Thus has grown up the representative system of England; commencing in the selfish policy and fear of a usurper, and ending in the swaying authority of the commonalty of England.

The common law of England, except as modified by feudal institutions, is derived from the civil law. The right of trial by jury came from the *Slavonic* race, and was enjoyed along with the fabled felicity attending the reign of Alfred the Great. Then came the right of public trial; then the right to the accused of being seasonably informed of the precise nature of public accusations; then the writ of *habeas corpus*; then the assignment of counsel to the prisoner; and last, the confirmation of the freedom of the press. These rights, secured one by one, as experience disclosed the want, are few and simple, but they are the fruits of ages of determined struggle.

The royal prerogative has been checked by the growing authority of parliament, and restrained within narrow, and

still narrower, limits, by the vigorous expansion of the common law. But there have been three great occasions when the rights of Englishmen have been confirmed and extended by the sanction of the king to formal instruments containing their recital. These occasions produced the "Magna Charta," "The Petition of Rights," and "The Bill of Rights." The first was wrested by the armed barons from the timid King John; the second was signed by the lawless and unfortunate Charles; and the third was obtained from the newly-enthroned William and Mary. They contain the only written constitution of England. The demand for each was made under the smart of actual grievances. The assent to each was induced by apprehended consequences of a refusal.*

We have thus given a hurried outline of a constitution which has been maturing for more than a thousand years. Its energies have expanded so as to enable it to preside over and protect an unsurpassed national greatness on the land and on the sea, and to render more and more secure that personal liberty which it has ushered into the world, and in which it "lives and has its being." It is strong and flexible. It is beneficent and progressive. Its peculiar constituent principles originated in real evils; when the relief was obtained, the remedial measure was wrought into a fundamental law. How active, and at the same time cautious, has been the spirit of the nation; which, co-operating with events, has wrought it out! That spirit has exiled and beheaded kings; it has created a commonwealth; it has overthrown a commonwealth, and in all its exciting labors has suffered itself to be misled by no vague abstractions, but has sought steadily the practical, and with that has been content. The consideration of the English constitution naturally leads to that of the United States, for the relation of the one to the other is that of the parent to the child.

* Cet effet, qui tient à des causes physiques dans de certains pays d'Orient, la nature du gouvernement le produisit dans la Grèce. Les Grecs étaient une grande nation, composée de villes qui avaient chacune leur gouvernement et leurs lois. . . . Il y avait chez eux des républiques dont la constitution était singulière."—*Esprit de Lois*, b. xxiii., c. xvii.

It is difficult for Americans to speak impartially of the process by which our constitution—noble structure!—was formed. Something of that patriotic reverence which led the ancients to refer the origin of their governments to heroes, is native to mind. It is a popular idea among us that our government is essentially new. We are wont to speak of the “framers of our constitution,” but it does not follow that we *originated* a political system because we *commenced* a separate national existence. If by “abstract principles” we understand those given by the reason or deduced by logic, as distinguished from those taught by experience, we must decide that the essential provisions, both of the separate, and the United States, were described from the realities of history, and not from “the abstract principles of philosophy.”

The thirteen original states had been subjected to a long training as colonies of the British crown. Their local constitutions had been established under charters. The earlier colonists had personally felt the inequality of opportunity created by the principle of primogeniture. They established, therefore, laws for the equal distribution of property. The political significance and influence of towns were the early development of colonial life. The colonies had, from the beginning, legislated through assemblages of deputies from the towns. Thus had sprung up a government more thoroughly representative than that of England. The colonial jurisprudence was of course English, so that when independence came, the charters became constitutions, and the colonies states, with complete systems of government in full operation.

Circumstances had also paved the way for the confederation. For when taxation had been insisted upon by the mother country, the several colonies had met by deputies to prepare a united remonstrance, and afterwards, when war threatened, to devise means for united resistance. When the war of separation was ended, common danger, common success, and above all, common interests, had fixed the idea of a union of which the confederacy was but the expression.

This confederacy was, by the experience of five years, proved to be powerless. It had no authority. It had no suffi-

cient revenue. Hence a new general government, with substantial powers was rendered necessary, so that experience and not philosophy, led to the duplicate nature of our system. The "United Provinces" furnished not only the name of our government, but the principle upon which its powers were shared by the general and state authorities. The apportionment of power among the several branches of the government of the United States was made upon a principle of close analogy with the constitution of England. The executive has the same duties as the British sovereign; our legislature was constituted like the British, save that having no hereditary branch, we substitute the senate as representing states; and our judicial system and jurisprudence were incorporated entire from England's. In the production of our constitution, we labored as Englishmen, reproducing upon American soil British institutions.* The fruits of the centuries of English experience is ours by inheritance and a former appropriation. In all the grand drama from the time when the curtain rises with the landing at Boston, down to the closing scene at Philadelphia, in the principles for which we contended in the manner of our struggle, and in the care with which we cherished the results, we see abundant proof that transplanting had not destroyed or injured the idea of civil liberty which humanity had won to itself in the old world. Everywhere, and in all things, we see a practical, trained sagacity, ranging through the wide circle of events for sure knowledge, but nowhere and in nothing the rashness of self-confident speculation.

"Yet I doubt not through the ages one increasing purpose runs,
And the thoughts of men are widened with the process of the suns."

We do not undervalue our constitution when we say that its principles were bequeathed to us by older nations. For the truths which God works out by events, are valuable beyond those which man's narrow mind originates. In enjoying our constitution, we are enjoying the heritage of all former ages.

* La gouvernement des rois de Rome avait quelque rapport à celui des rois des temps heroïques chez le Grecs. Il tomba, comme les autres, par son vice général, quoique en lui-même et dans sa nature particulière il fût très-bon.—*L'Esprit des Loix*, l. xi., c. xii.

The fruits of the Jewish discipline are ours in our ready and clear conceptions of religious truth; the result of Grecian development is ours, in the prevalent idea of the people's right to rule; a product of the human mind was received in its contribution from a refined and broad jurisprudence; Holland struggling and Holland successful, wrought out for us an idea of a blended government, which should be at once centralized and localized; the Reformation gave an expansive force to mind which was at work among the exiled colonists; and England supplied not only the outline of our form of government, but a distinct idea of a civil condition in which liberty was removed from anarchy and restraint prevented from becoming despotism. All the resultant ideas looming up and operating in their freedom in the American mind, rendered the adoption of a constitution substantially differing from the present one, practically impossible.

But abstract principles have been essayed in government, and that too in recent times. A constitution was formed for the colony of South Carolina by Locke, the philosopher, and the scholarly Shaftesbury. It was a semi-feudal system thoroughly elaborated in all its ramifications. But an already established community had not the ability to readjust itself according to speculative principles, and the constitution of the philosopher, whose *diagnosis* of the mind has been the admiration of thinkers, soon became obsolete.

An experiment was also made, but on a larger scale, and with more fatal consequences. Imaginative, speculative and infidel France, weary of an enfeebled monarchy, entrusted her political destiny to philosophy. She strove not to follow, but to guide events; she disregarded customs and institutions; she did not consult capacity; she put no faith in the doctrine that principles must become structured in society before they can be fundamental in government, with the liberality of reason itself, she propounded a system based upon liberty, equality, and fraternity. These principles set at work at once, and in their fulness rendered society a riotous mob. Liberty became lawlessness; the sudden process of equalizing resulted in demoralization, and abstract fraternity became practical fratri-

cide. A wide-spread anarchy devastated and destroyed, and a horror-stricken people welcomed a succeeding despotism. The career of governments formed on abstract principles must ever be thus brief and abruptly terminated.

We have thus examined the subject with reference to the known principles of mind and the nature of government, as well as in the light of history, and we conclude that the formative influence which works in the development of beneficent constitutions, resides in fact and not in philosophy; that the dream precedes the interpretation; that we must look for an analogy in nature and not in art, and pronounce the normal condition of a state a growth and not a structure. This law of man's progress in government is but an illustration of a still wider—the universal—law of mind, that truth has found its entrance into the understanding of mankind, through the door of actual experience. Truth would have perished from among men had it rested upon formulas alone. If science, reaching its arms from pole to pole, and goaded on by an insatiate curiosity, can make its advances only by the toilsome accumulation of facts; if art, wedded to the freedom of the ideal world, can proffer no instruction save its masterpieces; if, in short, in all things, even the individual mind in its free inquiry has but classified and generalized facts, what wonder that the collective mind of a nation—often clouded by ignorance, occupied with life's necessities, impeded by custom, misled by artifice, and fettered by force—has advanced only as stirring events have carried it onward, and has comprehended political systems only as it has received them glowing in the furnace of reality.

This conclusion, if correct, leaves the developments of political organizations of the future to be characterized by the succeeding eras of events. These events do not fall out by chance. As surely as the aggregate movement of our race is onward, as surely as Providence is leading the human mind to a higher and still higher standpoint, so surely will political constitutions embody more and more of the liberality and justice of ideal governments. The constitutions of the various states of Greece, notwith-

standing her resplendent arts and refined culture, were based upon the narrow idea that man existed only as a member of the state. The Roman empire, notwithstanding its strongly centralizing forces, was, by reason of its wide territorial expansion, compelled to give a recognition to municipal rights. Modern constitutions, reproducing the decentralizing ideas which have been given forth by successive civilizations, combining, eliminating, and intensifying them as changing circumstances have demanded, have thrown them in multiplied, protective provisions around the liberty and property of the individual citizen. May we not hope that when a more thorough Christian civilization shall possess itself of the strongholds of society, constitutions of government will centre in the principle that man is entitled to care, not merely as lending glory to the state—not merely as acquiring and enjoying property—but as endowed with a moral and immortal nature?

NOTICES AND CRITICISMS.

BELLES-LETTRES.

Les Mœurs d'Aujourd'hui. Par LOUDOLPHE DE VERMOND. 16mo. pp. 284. Paris: E. Dentu, Libraire-Editeur.

THIS is a volume of very free criticism upon the prevailing tone of French manners and customs. It treats of the life of to-day, its follies, its frailties, and its vices. A decided vein of satire runs through the author's style, and he is never averse to telling plain and wholesome—though, of course, often unpalatable—truths. His most pointed weapons are directed against the weaknesses of vain women, the lazy indifference of idle men, and the general laxity of principle which pervades the highest circles of society. If we might judge from such a work—one that does not pretend to be anything like a philosophical examination of causes and motives, but is merely an agreeable and witty portraiture of certain phases of the average French life—we should be forced to conclude that common ideas of decency and honor and lofty principle do not obtain

among these vastly agreeable but scarcely commendable Parisians. Doubtless the truth lies between the two extremes which are occasionally described, but M. De Vermond has seen fit to present but the more superficial and amusing—though less favorable—side of the “manners of to-day.”

Among the subjects treated are the following, which give a fair idea of the contents of the book : The Men who Marry ; The Men who do not Marry ; The Life of Gallantry ; Intrigues and Affairs ; Love in Paris ; Men of *Esprit* ; Honest Men ; The Artfulness of Women, &c. A quotation from the chapter which discusses the relative situation of married men and the men who do not marry shows in what rigid lines French society is marshalled. No wonder that the freedom-loving Englishmen and Americans look with a certain distrust upon a state of things so thoroughly artificial :

“ Les gens mariés forment une caste à part, qu'on appelle la société ; les jeunes gens ne forment que le monde des jeunes gens. Les jeunes gens vont chez les maris, mais les maris ne vont point chez eux. Aucune femme honnête ne peut rendre visite à un célibataire sous peine de déconsidération ” (p. 1).

M. De Vermond seeks to define what he calls “la vie galante,” which, in spite of its forced gayety and constant pleasure-seeking, must in reality be a miserable sort of existence :

“ Ceux qui se jettent dans la vie galante sont exposés à toutes sortes de mésaventures. De loin, le vie galante est un vie charmante ; on y rêve des plaisirs, de cœur, d'amour-propre, de domination, de libre caprice, et d'indépendance. La réalité désabuse ” (p. 201).

All the novelty, curiosity, piquancy, once felt and keenly enjoyed, become things of the past (p. 36) : “ L'esprit se blase ; la volupté s'éteint.” In another chapter we have an amusing glimpse of “ Les gens qui s'adorent.” There is much quiet irony in the picture of this witty word-painter :

“ S'adorer ce n'est pas aimer ; mais c'est si charmant, si amusant, si étonnant et contrefait si parfaitement l'amour que cela en tient lieu à beaucoup de gens et leur fait croire qu'ils sont aimés ” (p. 53).

But it is against women that our author's most cruel weapons are hurled. French women, he would have us infer, are invariably artful and designing, and not entirely above suspicion in their outward walk and conversation. Are they to be blamed for their artfulness ? They are only following their own instincts, and are acting out the nature which was given them :

“ Faut-il reprocher aux femmes leur politique ? Elle est comme toutes les politiques, bonne ou mauvaise, selon les principes. Toutes les femmes font de la politique, mais chaque femme choisit la sienne suivant sa vertu, sa bonté, son génie, son idée, les circonstances et son tempérament ” (p. 67).

And what part are these feminine politicians expected to play in the great drama of society ? The husband's duty is plainly declared to be

p. 69) to support, serve, accompany, defend, and protect madame ; to be "enfin, responsable de ses actes." The wife, in turn, leaves to her husband the whole matter of earning money, reserving to herself alone the important duty of spending it ! For—and this is of great importance and should be carefully noted (p. 71) : "Qu'est-ce que le bonheur de Madame ? C'est d'avoir *tout ce que son cœur désire.*"

The husband's position is more fully defined, when we are told (p. 74) that he ought not to go away from home any oftener than is absolutely necessary, but should endeavor to make himself agreeable to his wife, that the time may pass pleasantly for her ! Still, when "business" calls him to earn money for her comfort and happiness, he must tear himself away—"pour ses affaires, bien !" Leaving the field of love and marriage and the relations of the sexes, the various advantages of possessing pleasant companions are discussed, and we are told (p. 101) that friends are useful to the idle to pass the time ; to the *ennuyés* to kill it ; to the prodigal, to spend their money ; to the wicked, to practice their arts. Even morality and common honesty assume a certain mercantile value, and are praiseworthy only so far as they will bring a good price in the market :

"L'honnêteté ordinaire est l'honnêteté mondaine !—l'honnêteté de bien des gens honorables. On agit avec la vertu comme on agit avec la mode" (p. 170).

Everywhere the same self-seeking, pretentious spirit is to be found (p. 153). Academies pretend to infallibility ; societies to vast scientific attainments ; parties to lofty convictions of duty ; conquerors to generosity ; the conquered to resignation. All women lay claim to wisdom, and all husbands to special fidelity.

In a chapter entitled "De L'Esprit Aujourd'hui," M. De Vermond declares that "esprit" no longer exists in France (p. 118). When books were rare, people read little and wrote still less ; to-day, books are printed in abundance, and there is a great affectation in assuming *esprit*, which is in truth being crowded out by *talent* and a less noble form of smartness. Business men speak contemptuously of people of *esprit* (p. 120):

"Des incapables, vous répondent-ils, d'un ton dédaigneux ; ce n'est pas de l'esprit qu'il nous faut, mais du zèle, de l'activité. L'or, dont on a fait son culte, le remplace-t-il pas toutes choses ?"

As will have been inferred from these quotations, it is by no means a pleasant picture which M. De Vermond has drawn of the average one of French society. If it be a true one, it argues a decided un-soundness and falseness at the heart of things, which is the more dangerous on account of the outward show of respectability and fairness. If the "manners of to-day" be such as he has described, the sooner they become the manners of a past and forgotten time the better. Yet it is impossible to deny that our author shows a genuine

and profound knowledge of the French mind and can trace its workings in its most intricate windings. Indeed, his mental acuteness and vivacity often force one to the opinion that he occasionally sacrifices the actual truth for the sake of an epigrammatic sentence or a brilliant conclusion of a paragraph. Actual observation of people in the world—and certainly France cannot be wholly exceptional—does not lead us to suppose that all men are wicked, and all women artful and designing; but the types which M. De Vermond presents are invariably of this unfortunate description.

The Temperance Drama. A series of Dramas, Comedies and Farces, for Temperance Exhibitions. By GEORGE M. BAKER. 16mo, pp. 230. Boston: Lee & Shepard.

It is very doubtful whether the cause of temperance, or even the cause of morality, will be materially served by the publication of this book of household-plays. Amateur dramas should always be written with especial care, to avoid vulgarity or coarseness, and one would naturally suppose that a work issued to further the interest of a good cause would have particular reason for caution in this respect. Yet, Mr. Baker, who from the number of his published dramas may be inferred to know what he is about, has wilfully sacrificed good taste to win a cheap popularity. We cannot say how "taking" these dramas might be in school-exhibitions, but we are sure that the young people who engage in their representation will by no means gain a loftier idea of the capacities of the English language, or find their natural delicacy and modesty fostered by such an entertainment.

Coarseness of thought and language characterize a majority of these "Temperance Dramas." In a play called "The Little Brown Jug," we have for a leading character one Jarius Jordan, a Yankee speculator, who conveys his temperance notions in such choice English as this: (p. 11) "See here . . . you're a good deal older than I am; but we've been good friends ever since I was knee high to a woodchuck; so, hear me fust, and lick me arterwards if you don't like it. Here you've been a talking about the temptations of the city, and putting that into your boy's mouth that will work his eternal destruction! Your little brown jug will be his evil genius. Mind what I say! He hankers arter it now." The feminine element of this drama is of a scarcely higher order. The "Yankee help," in answer to Jarius' tender question, (p. 13): "Heow's yeour marm, Miss Peelee?" responds in this elegant dialect—a style of language which, it may be safe to say, was never employed by any human being, not even "Yankee help."

"Rather peaked, Mr. Jerden; and jest when I ought to be at home, I'm kept at the big house, and worked like a dog. Such a set of cross-grained folks you never

did see. Old Mr. Douglas as proud and stiff as a granny dear, Mrs. Douglas frettin' and worryin' the livelong day about nothin', and that good-for-nothin' Hen of theirs a carryin' on all sorts of didos."

Another play, entitled "Seeing the Elephant," is scarcely better, though the wit (?) of the piece is divided among the inevitable Irishman, a farmer "occasionally addicted to the bottle," and his precious son, who talks about "dad," exclaims "by hokey!" and "Christopher Columbus!" and describes his father in an intoxicated state as "sprung" and "over the bay." This young hopeful (p. 76) characterizes himself as a "purty rough boy," and we are not greatly surprised at his confession considering the "rough" company in which we find him. There is still further a teamster who bids people "hold their hush" and speaks playfully of the elephant as a "bullephant."

This choice mixture of vulgarity and stupidity is innocently presented by the author, under the respectable title of, "Temperance Dramas."* Whether the youthful amateurs would not receive more lessons in bad English and coarseness, than they would gain just ideas of the importance of the "Temperance" cause, is indeed a question for serious deliberation.

We have noticed these dramas with some severity, because a book which is to find its way into the hands of many young people—by them to be studied and even committed to memory—ought to possess a wholly unobjectionable character. The publishers have shown such commendable taste and judgment in the general selection of works issued from their press—particularly in the field of critical investigation, in their excellent books of reference, and volumes of scholarly research—that we are the more pained to notice any defects in their publications for young people. We trust that Mr. Baker will exercise more care in his future contributions to the amateur drama—remembering that other things besides the passing amusement of the hour should be taken into the writers' consideration.

* In referring to these performances we are reminded, by contrast, of a veritable dramatic and poetical treat, which it was our good fortune to assist at some two weeks since, at Lyric Hall in this city. The entertainment alluded to was ushered in by no flourish. Mr. William G. Egan, a young gentleman of decided dramatic talent and culture, merely informed a few friends that he intended giving one of his characteristic "Evenings with the Poets." But this proved sufficient to attract a larger, more respectable and more discriminating audience than is often met with at any up-town place of amusement. The programme of Mr. Egan included dialogues from several of the most celebrated of Shakespeare's tragedies. The young gentleman's rendering, even of the most difficult of these, was such as to surprise those of his friends, who, having frequently heard him in his father's parlors, had expected most from him. Indeed, we do not remember another instance in which so young a votary of Melpomena elicited such enthusiastic applause from an audience equally intelligent; some of the most critical declaring that his rendering of some passages could not be surpassed, either in power of vocal utterance, or in gesture—in the pathetic or in the startling—by Booth, or any other tragedian, however eminent, of the present day.

And still more emphatic, if possible, was the approbation bestowed on Mr. Egan's rendering of his comic selections. In some of these he displayed, without any effort, genuine humor; a rollicking, yet chaste drollery, which must be witnessed in order to be appreciated.

1. *Aunt Jo's Scrap-Bag. Cupid and Chow-Chow, etc.* By LOUISE M. ALCOTT. 16mo., pp. 209. Boston : Roberts Brothers. 1874.
2. *Trotty's Wedding Tour and Story Book.* By ELIZABETH STUART PHELPS. 16mo., pp. 224. Boston : James R. Osgood & Co. 1874.
3. *Child-World.* By GAIL HAMILTON. pp. 213. Boston : Shepard & Gill. 1874.
4. *Bed-time Stories.* By LOUISE CHANDLER MOULTON. 16mo., pp. 238. Boston : Roberts Brothers. 1873.

THE necessity of preserving a high standard of excellence in the department of children's books is not generally recognized. Yet it is in truth, a matter of great importance that our young people should read only the best of the countless volumes which are manufactured for their entertainment. These exciting stories are eagerly perused at a time when the mind is most impressionable, and when every tale tells upon the character and constitution of the reader. Parents are too often satisfied with a careless survey of a book—the pretty binding, the attractive illustrations, and the author's name being quite enough to determine them in their choice. And when the “notice” and “reviews” of the newspapers and magazines only serve to strengthen the popular impression, that all children's books, good, bad, and indifferent, are of much the same order of excellence, it becomes necessary that the truth should be occasionally spoken, and that the real character of this branch of literature should be discussed in all seriousness and earnestness.

It comes, therefore, within our province to notice a few of these gayly-covered volumes—so sure to find their way into the stock of holiday gifts, without any actual reflection as to their merits or defects on the part of their donors. For it seems to be taken for granted that a child's reading is a matter of no especial moment ; he is allowed to take up any and every book that the Sunday-school, the circulating library, or the book-shelves of his neighbor may throw in his way. He is soon deep in a “series” of juvenile melodramas, which by gentle and easy stages lead to the more fascinating charms of dime novels and the New York Ledger, and these standard works soon become to him a constant “guide, philosopher, and friend.” The young girl brought up on stories of boarding-school life, finds her head full of tender thoughts of lovers and romantic adventures, which become more interesting as she soon glides into the mawkish sentimentalities of Mrs. Holmes and Mrs. Southworth, and hence to the flowery fields of Miss Braddon's and Mrs. Wood's more exciting mysteries.

se books whose titles we have given at the head of this article, and of a tolerably moral and respectable character, show the tendency in authors of children's books to forget the real nature of their audience, and the dangerously impressionable character of a child's mind. And even in those cases where no fault can be found with the morality of the subject, the treatment and style of the work are often so unfortunate, so thoroughly unsuited to the wants of young readers, that one is tempted to ask of the author, "By what mysterious process of reasoning have you concluded that it was the mission in this world to manufacture children's stories?" Alcott is a bright, chatty writer, but she is too often carried away by exuberant spirits beyond the bounds of good taste. In *Cupid Chow-Chow*, the young hero and heroine—of very tender years—want to get married, but the worldly-minded damsel remarks: "We can't be married until we have a lot of money. Nobody does; and we have ever so much to buy things with." "Yes, but papa said he'd give us some little furniture to put in our house, and he will let us have as much cake and milk-tea as we want, and I shall be glad of you; and what's the use of money?" asked the enamored Cupid, who was in love in a cottage, or swan-house, rather. "I shan't marry a poor boy, so, now!" was the mercenary Chow-Chow's decision (p. 21).

poor Cupid makes herculean exertions, and at last earns four dollars and a half. Still the cruel Chow-Chow is not satisfied:

"That isn't half enough. We ought to have ten dollars; and I won't like you unless you get it."

"No, Chow-Chow! I tried so hard; do play it's enough," pleaded poor Cupid. "No, I shan't. I don't care much for the old swan-house now, and you ain't pretty as you used to be!" (p. 22).

Is this very creditable to the author of "Little Women," or does it sink it desirable that children's minds shall thus early be filled with thoughts of marrying for money? There is a good deal of cleverness in this story about housekeeping, the relations of husband and wife, and woman's suffrage—always spoken of as "*woman's puckerage*." But it is an unquestionable fact that satire is always lost on a child. Children do not comprehend it; it makes not the slightest impression. A child who reads it aloud may be interested and amused, but a child, in nine cases out of ten, is quite unable to see what the "n ups" find in it to laugh at.

Still worse is the opening of Miss Phelps' *Trothy's Wedding Tour Story-Book*, which is all about a divorce, a fight between two "enemies" young men—aged anywhere from five to twelve—and the resulting "vow." A child who could really appreciate and understand the allusion, the wit and the sarcasm of all this, is to be pitied. It could be a likely candidate for the house of correction, to be

tried in later years for attempted bigamy. Really, Miss Phelps is too clever a writer to waste her talents on such questionable subjects.

Mrs. Louise Chandler Moulton, in her *Bed-time Stories*, cannot be accused of over smartness or of favoring juvenile misdemeanors. But too many of these "Stories" are painfully of the goody-goody order in which rich little girls carry presents to the suffering poor, or some act of childish self-denial is served up as a piece of extraordinary heroism, or some boy-martyr heaps "coals of fire" upon a larger fellow who has abused him. Much of the language is affected and stilted to an unpardonable degree, so that the child begins to feel that goodness is something insufferably disagreeable, and that a little genuine naughtiness would be far more entertaining. This is the way in which Dick Osgood, in "Coals of Fire," asks the pardon of that young hero Guy Morgan, whom he had once wronged. It sounds very much like a presentation speech prepared by a schoolmaster:

"I have come," he said, "to ask you to forgive me. I struck you a mean, unjustifiable blow. *You receive it with noble contempt.* To provoke you in fighting, I called you a coward, *meaning to bring you down by some means my own level.* You bore that, too, *with a greatness I was not great enough to understand.* I do understand it now" (pp. 48-49).

The composer of such an address must have been well-read Cicero's orations—to say nothing of Demosthenes' speeches!

Gail Hamilton writes, with a certain slap-dash vigor, and her new book, *Child-World*, is not wanting in brightness. But she, too, of course falls into a "grown-up" style, and can indulge in such a speech as is supposed to come from the lips of one "Uncle Arthur," who thus addresses the unlucky "Trip":

"Well, Miss, seven years ago this minute, you must needs come breaking in on my solitude, with your joys and noise, and you have been keeping up a to-do of one kind or another ever since. And then he gazed long and silently upon the upturned bright, wondering face, till the 'water stood in his eyes,' and he caught the figure to his heart, and covered the little face with kisses, murmuring softly 'May you keep it up, my darling'" (p. 65).

The same poor Trip is requested to give up her innocent longing for candy on her birthday, in consideration of the countless girls who are not able to feast upon such dainties. Uncle Arthur thus preaches:

"But now look up at me, Minx. Just think. There are those poor girls, who have no candy from year's end to year's end, nor any money to buy it with. They have to work hard, and here you have everything that you want, and a heap that you do not want, and buttered toast on birthdays, and turkey and plum-pudding at Christmas, and Uncle Arthur to fatten on at intervals the year round. *Why, think of your blessings—and you ought to be thankful and give your own candy to them, much more mine, you young heathen!*" (pp. 69-70).

will be remembered that the child thus addressed has just reached the advanced age of seven years !

is upon these and kindred books that our young people are continually feeding ! Is it strange that they too often derive anything but fit from the perusal ? Where no positive immorality is taught, is generally a certain feverishness of tone to be found in the author's style. These books are often bright and witty—indeed, far too so for the child's comprehension ; but the wit is apt to degenerate into a certain laxity of tone, and slang, and unnaturally sharp dialogue takes the place of the “pure English, undefiled,” which used to be considered good enough for juvenile readers. Is it not high time that this important branch of literature should be amended ?

Faire-Mount. By HENRY PETERSON. pp. 30. Philadelphia : Claxton, Remsen & Haffelfinger. 1874.

When Shakespeare's Audrey, in “As You Like It,” asks of her foolish lover, in such naïve simplicity, “What is poetical ? Is it true in deed and word ? Is it a true thing ?”—she unconsciously touches a topic upon which many writers of modern verse would do well to reflect. So many of the “poems” of our time are so far from being “true things”—are, indeed, so utterly purposeless and meaningless—that one is often ready to wish that there were laws against poetry-making as against other nuisances. For surely, anybody with any cultivation can spin off so many pages of jingling nonsense—many feet to a line, so many syllables, so many accents—and lo ! a poem. It is a subject for reflection whether a society for the protection of the public against bad poetry might not be a great moral support to any community.

Mr. Henry Peterson's verses upon “Faire-Mount” partake of the general character of such local effusions, and are of that respectable, safe, and indifferent quality which naturally suggests the question—should they have ever been printed ? Read at a public meeting, recited at a banquet, recited at a dedication, or pronounced in a hall, they would have received the proper applause at each local occasion—wherever patriotism, natural pride of city, etc., might have been excited. But, beyond this, there seems to be little reason for their publication. The verses are not egregiously amiss in the number of lines to a line, but they seldom, if ever, rise above common-place poetry. Occasionally the author drops into moral reflections of a certain sort of success, but he in the main confines himself to a harmless field of description, recalling in measured lines the

various illustrious men who have at one time and another honored Faire-Mount with their distinguished presence. Of his didactic teachings these verses may be taken as a fair specimen :

"Here may our sons be also taught to prize
The civic virtues, dear to patriot eyes.
Be taught that wealth to mortals is not given,
But simply lent on usury by heaven ;
Not to be squandered with a reckless hand,
But with wise foresight used to bless the land " (p.11).

We are especially informed that—

"to 'these Hills' grand Robert Morris came,
When, a dim light, flashed Freedom's flickering flame,
To gain fresh strength from Nature, nerve his heart,
That he might still perform his mighty part " (p. 13).

"And Jefferson perchance, with thoughtful mien,
Strayed from his neighboring home to view the scene ;
Gazing with calm and philosophic eye
From this then noisy stream to placid sky,
Noting each herb and grass and tree and flower,
And making useful thus each passing hour,
Practical, pleasant, genial, wise, and good,
A friend to all, by all not understood " (pp. 18-19).

There is much more of this quality. The thought naturally occurs to the average reader—uninfluenced by prejudice—upon what ground Mr. Peterson considered it desirable to publish a volume of such purely local interest? It is but justice to his publishers, however, to admit that it is not often we find their imprint on an inferior book. Indeed there are few who evince a more correct judgment or better taste in their selections.

EDUCATION.

A School Manual of English Etymology, and Text-Book of Derivatives, Prefixes, and Suffixes. With Exercises for the Use of Schools.
By EPES SARGENT. 16mo., pp. 264. Philadelphia : J. H. Butler & Co. 1873.

THE study of language is always one full of interest and profit. It inevitably leads to still more important fields of investigation—as in words lie hidden whole histories, curious traces of manners and customs, and often the very thoughts and feelings of the people who first used them. The simplest language of the English-speaking child of to-day contains elements which are thousands of years old, and which,

if studied, give marvellous indications of the antiquity of our race, and reveal to the seeker an undreamed-of storehouse of rich treasures.

The scholarly research of Max Müller, Bopp, Trench, Marsh, and other philologists has thrown much light upon this comparatively unexplored field, and it is now possible for many of the results of these eminent investigators to be placed before the public in simple and intelligible form, so that even the children in our common schools can gain some slight idea of the wealth and beauty of the language which they so unthinkingly employ. For words often reveal in themselves the sources from which they come, and are thus found to be full of life and meaning—not the soulless, senseless collection of letters, thrown together without reason or forethought.

The compiler of the present volume has been eminently successful in his various works designed for the use of schools. Indeed, the merits of *Sargent's Readers* have become so universally recognized that they may fairly be said to have become national, and are thus, in the truest sense, "American." His "Etymological Reader" was a combination reader and text-book in etymology; while the present "School Manual" is chiefly confined to tracing the derivation of English words to their original roots, with appropriate exercises and remarks.

Latin roots and their derivatives occupy over one hundred and fifty pages of the volume, and these, for the sake of convenience, are arranged in three divisions "the object being to discriminate between the root-words that supply a large number of derivatives and those which yield only one or two. The third Latin division is made up of such root-words as are represented by monosyllables in English" (p. 6). Then follow Greek roots and their derivatives, arranged in two divisions, with appropriate exercises. The Greek may well be considered an "inexhaustible storehouse," from which science and art are continually forming and compounding new words. Mr. Sargent gives from this abundant supply only those words which are likely to be most useful in the student's actual speech and writing.

French, Italian, and Spanish roots and their derivatives, with words derived from names of persons, occupy but a comparatively small space in this volume. The few pages devoted to Anglo-Saxon roots deserve most careful attention. Students of old English literature—particularly those interested in the writings of the tenth and eleventh centuries—will find in these five pages much interesting and suggestive matter. The extracts from the Saxon Chronicle, the Brut of Layamon, and Richard Rolle's well-known lines on Heaven, beginning with—

"Ther is lyf withoute ony deth,
And ther is youthe withoute ony elde."

afford curious illustrations of Anglo-Saxon literature, and suggest the progress which our language has made in the course of the centuries.

This work on English etymology is to be commended for its systematic arrangement, its obvious research, and scholarly character. The compiler acknowledges his indebtedness to Max Müller, Trench, Marsh, Whitney, Scheler, and other well-known philologists; and we find in his work abundant testimony that he has carefully examined all necessary authorities in preparing his text-book.

1. *The River of Life*. For our Sunday-Schools. By H. S. PERKINS and W. W. BENTLEY. Pp. 160. Boston: Oliver Ditson & Co.
2. *Choice Trios for Female Voices*. By W. S. TILDEN. Pp. 160. Boston: Oliver Ditson.

ONE is often tempted by an examination of the music books which have access to our schools, and even the home-circle, to imagine that there is something positively fatal to true poetry in the musician's score. It is hardly too much to say that the veriest "nonsense verses" ever written would be a vast improvement upon some of the "words" that are "adapted" to popular melodies. The rhymes of Mother Goose, the absurdities of Edmund Lear, and the jingle of "Lilliput Levee" would be a positive relief after the dreary inanity of many of the songs which are everywhere sung and have gained a degree of celebrity. It is, perhaps, asking too much to demand that the rhymes of the poets who supply "copy" for these songs should be absolutely poetical and finished productions; but is it too much to expect that they shall have a measure of common sense and convey a clear and definite idea of their meaning—for a moment supposing that they possess such a valuable quality?

The volumes whose titles are given above are no better and no worse in this respect, than the ordinary "Collections" adapted to the wants of "the Sabbath-school, the social meeting, and the home-circle"—and, one may safely say, for all other places where the words of a song are supposedly of no importance. Yet it is of such stuff as this that these "Collections" are made—upon such poor pabulum are the minds of our children fed! What wonder that there is a sad lack of appreciation of true poetry in the mass of men and women, when their earliest impressions of the divine art have been gathered from the "words" of such airs, in conjunction with the twaddle in rhyme which fills books like those now before us.

The River of Life is peculiarly adapted to the (supposed) needs of Sabbath-schools. And this is a fair specimen of its poetical character:

"Come, let us be marching along,
Away to the heavenly land,
We're marching with banner and song,
A glad, happy, Sunday-school band.

"Our blessed Redeemer we love,
To us he is precious and dear;
He reigns in his kingdom above;
O may his pure spirit be near!

"The Bible our compass shall be
To guide us along the dark way,
Till Heaven's bright glory we see,
And darkness is turned into day" (p. 35).

This, by many, will doubtless be thought very edifying, as it contains a number of religious phrases and common-place sentences about sacred subjects. But what must be its effect upon a child who "takes it in at the pores," and derives but a very vague and unsatisfactory idea as to what it all means? When will religious teachers learn that religion can be administered in better ways than by such wholesale doses of theological medicine? These songs are full of allusions to Jesus, heaven, our home, and the keeping of Sunday. The child is constantly reminded that he is a young Christian soldier, that he must go onward to the fight, that he is a "pilgrim" and must consequently cherish heavenly longings, which it is extremely doubtful if youths of tender years—even the most spiritually-minded—ever entertained. Surely, few children have a sufficiently angelic—and we might also say, unnatural—organism as to receive any just idea of the meaning of this semi-religious doggerel; and is there not as much irreverence in an ignorant and stupid presentation of sacred subjects as in a careful avoidance of these themes?

Our modern secular songs and ballads are not, as a rule, superior to the "religious" pieces. What absolute nonsense finds its way into the parlor and the concert-room! How complacently do young ladies warble the most inane ditties, which we applaud as vigorously as if they contained the latest oracles from the temple! And the publishers of these choice bits of music are reaping a golden harvest out of our ignorance and stupidity!

The *Choice Trios for Young Girls* is chiefly composed of secular pieces, but the spirit of indifferent versification is still predominant. The airs are in some instances by eminent composers, but there is an end to it. As if satisfied with the musical success, the author of the "words" complacently counts off the proper number of syllables and furnishes the requisite amount of doggerel. What could be more melancholy—judged from the poetical stand-point—than such a composition as that on page 28, where the "Nymphs of air and ancient sea"

are addressed, and upon whom are bestowed these singular gifts—"plumes of rich device, plucked from birds of Paradise," together with "drops of essence rare, shook from wandering meteor's hair (?) " In short the singer's mind must ordinarily be a complete blank, or she cannot voice with anything like tranquillity such utter nonsense.

Have we not had "something too much" of this machine-poetry in our hymn-books, our Sunday-school "treasuries of song," and our "Collections for the home-circle?" It would seem to be almost time for a great musical reformation, when good taste should dictate a more sensible species of poetical composition, and when something besides a very diluted form of piety and an equally meagre quality of sentimentality should make up a large portion of the popular songs of our schools and homes.

1. *The Sunday-School World*. January, 1874. Philadelphia and New York : American Sunday-School Union.
2. *The Child's World*. Philadelphia and New York : American Sunday-School Union.

THE International Sunday-School Lessons, prepared by Rev. John Hall, D. D., would in themselves render *The Sunday-School World* a valuable aid to teachers in their work. The January number contains studies from the Pentateuch—examining such subjects as the Birth of Moses, the Call of Moses, the House of Bondage, etc. Each lesson is full of judicious explanation of texts—giving a great deal of information upon topics historical and geographical. But perhaps a still more important feature of these Lessons is their real suggestiveness. Not only are the actual facts and incidents of the scriptural chapters presented, but the reflections naturally arising from such a study are hinted at, thus directing the teacher to useful paths of thought, which, if pursued, must inevitably lead to a marked improvement in the instruction of our Sunday-schools. For example, upon the Birth of Moses (Exodus ii., 1-10) Dr. Hall gives many interesting facts concerning the family of Moses, the plan of hiding the babe, with parallel passages in Scripture, etc. Then follow some remarks upon the geographical and historical features of his subject, with an appropriate illustration, in which a number of suggestive hints as to the especial meaning to be derived from the chapter are thrown out. In the "Infant Class" the same topics are treated, with easier questions, and many simple illustrations.

The January number also contains the Superintendent's Weekly Review, designed to recall the main facts of the lesson of the week, with an appropriate application. The editor, Rev. Dr. Newton, begins a

course of familiar "Talks with the Young" about the life and character of Christ, with stories and anecdotes which are calculated to interest the mind of a child. It has been proved by actual experiment that young people will listen to stories and glean some useful lesson from them, when instruction conveyed in any other form is entirely lost upon them. There are short articles by Rev. Charles S. Robinson, Rev. E. P. Powell, Rev. Charles F. Deems, and Rev. W. N. Meserve, besides a second paper on the Evangelical Alliance. The *Sunday-School World* will be found particularly useful to teachers who desire to learn as well as to teach, and who find that they cannot give instruction without taking the trouble to investigate the subjects upon which they are engaged.

The *Child's World*, also published by the American Union, still further follows out the ideas of the *Sunday-School World*—providing children with brief, but comprehensive and interesting articles upon the topics of the lessons. As, for example, in the numbers before us, we have a short article about the Call of Moses, and his shepherd life in the wilderness—with a familiar account of the miracle of the burning-bush. The editor begins a series of papers which promise to be very interesting and instructive, about "Scenes and Incidents in the Mediterranean"—the first sketch being a description of Antioch, its history and its connection with the biblical records. Rev. Edwin Rice prepares articles on "Animals in Bible-lands" and "Birds in Bible-lands," which present many curious facts in simple language, adapted to the child's understanding, and leading him to a closer study of these subjects for himself.

Sunday-school teaching has too long been confined to the mere asking and answering of questions, without any attempt at gathering deductions from such a study of the catechism or manual, and consequently with little real advantage to scholar or teacher. A more reasonable method is suggested by these International Lessons, by the various articles upon Sunday-school instruction, and by the short studies of themes immediately connected with the Bible. As indicating new paths of inquiry, and leading the minds of pupils and teachers alike into more sensible, and consequently more just views of Christian work and life, we welcome these little publications of the American Sunday-School Union.

SCIENCE.

The Principles of Mental Hygiene. An Essay. By D. A. GORTON, M. D. 12mo., pp. 241. Philadelphia: J. B. Lippincott & Co. 1873.

It is certainly refreshing, in the wilderness of inferior treatises upon subjects connected with the physical and spiritual well-being of

man, to meet with such a real oasis as that which we have in Dr. Gorton's "Essay." So many mediocre "doctors," who have scarcely shown just cause for receiving a diploma have rushed headlong into the publicity of print, so many quacks have thrust upon the world essays and pamphlets, and even ponderous volumes of medical rules and maxims, as a "complete guide to health," that one naturally becomes somewhat suspicious of this whole branch of literature. But Dr. Gorton has actually something to say, and he says it modestly, yet emphatically, and in a manner so simple, so direct and forcible, that one rises quite refreshed and stimulated from a perusal of his book.

The volume is written from a high standpoint—intellectually and morally speaking—the search for *truth* justifying the occasional sacrifice of conventional usages and set formulas, which, with many people, too often stand in the place of truth itself, and which they usually dare not investigate or question, lest the very foundations of all things be shaken. Dr. Gorton has no hesitation about speaking the right word at the right time, regardless of the thought or lack of thought of average men and women. If a subject will not bear examination and the light of day—so much the worse for it! Of course he will be called a "radical" by those who cling to conservative forms and fashions of thought, and possibly, in some instances, a "fanatic;" but these titles have always been applied to investigators and students, and—for the rest—calling names hurts no one save those who indulge in the practice! Possibly this much-dreaded "radicalism" is shown in no more alarming form than in the author's view as to what may justly be attributed to the influence of society in the formation of a criminal— independent of the man's own nature and peculiar bias :

"The merest novice in philosophy can demonstrate that that very criminal is to a great extent a creature of conditions and environments, of antecedents which he did not make and could not control; that, in fact, he himself is sinned against as well as sinning, and has just cause of grievance against society for permitting the existence of conditions which breed in him ill-health and morbid impulses without end, and then turning upon him the avenging hand of remorseless law" (p. 29) !

This is very bold language, but it is a word that needs to be said— and society, with all its conventional modes and fashions of thought cannot hear it too often. Not that man ever wholly ceases to be responsible for his actions, but society—that is, the aggregate of men— must recognize the duty and obligation laid upon it of repressing vice and fostering the virtue of a community by other means more subtle and, of course, more difficult than the employment of a police and the county-jail. And this is only another way of stating and enforcing the great doctrine of the vital connection and essential brotherhood of men.

But to examine Dr. Gorton's method of procedure. The study of hygiene has been seriously dwarfed and fettered in all past ages by superstition. It is now gradually emerging from this fatal shadow, and it is no longer considered a crime in civilized communities to supplement faith in an all-powerful Creator by the discovery of the causes of physical weakness and decline. Mind, as well as body, is seen to be subject to great universal laws; both are to be taken into consideration in a proper and rational treatment of the individual. Mental hygiene has therefore to deal with "man's whole being, physical and mental, one and inseparable" (p. 20). Upon this foundation Dr. Gorton builds a most ingenious structure, which shows the important influence of all conceivable physical agents upon mental sanity and health. The effect of climate upon mankind is generally recognized, but the extent to which disease and crime may be referred to this great influence has not yet been properly estimated. (Taine in his "History of English Literature," makes this an especial subject for consideration, and indeed carries his theory of climate to quite unjustifiable conclusions.) In this, as in other investigations, Dr. Gorton's remarks are strengthened by tabular statements, showing the relative conditions of men at certain seasons of the year, under certain treatment, etc. Concerning the peculiar relation of ignorance to crime we have this very decided utterance :

"When reading Mr. Mayhew's voluminous work on 'The London Poor,' some time since, I was forcibly impressed with the statement that the great need of the London poor is the 'Word of God.' When one reflects upon that statement, in full view of the fact that hundreds of thousands of London poor occupied underground apartments and sub-cellar kennels unfit for animals above the order that crawl, over-crowded at that, without light and ventilation, . . . eating, for the most part, the refuse of kitchens, understocked at best; having nothing to read, and unable to read even what they had; the Word of God given under such circumstances seems to me like adding insult to injury" (p. 37).

These poor wretches need first a little practical knowledge of the laws of ventilation, cleanliness, wholesome diet, and the like before they can justly comprehend any religious teachings.

Dr. Gorton further illustrates this branch of his subject by an examination of the effect of several varieties of diet upon the individual. He does not consider this matter as in any way beneath his notice, as "if God, the Eternal, resides in matter, materialism is certainly respectable" (p. 50). On the question of diet the scientific world are divided. But two things seem to be allowed "as indispensable to a proper dietary; first, *alimentary material*, and second, *digestibility*" (p. 48). The properties and qualities of various articles of food are there discussed in a very sensible manner, with some curious deductions and inferences; as, for example, when he shows how "a mild unstimulating diet weakens the force and activity of the passions, and promotes

mildness, placability and sweetness of temper" (pp. 53, 54). The Hindoos, whose food consists chiefly of rice and fruits, are the "mildest-mannered race on the face of the earth." May not the various forms of philosophy and theology which have flourished owe something of their peculiar character to the food and manner of living of their originators? *e. g.* "The theology of Gotama is certainly more logical and of finer conception than that of Paul or Constantine" (p. 54).

Dr. Gorton then examines at length the effects of certain narcotic agents upon the mind—as opium, coffee, tobacco, and alcoholic beverages. His conclusion concerning the last is decidedly in favor of total abstinence :

"My opinion is, that in health alcohol in any disguise has no rights in the human blood entitled to anybody's respect. . . . and cannot be introduced into the circulating system without seriously compromising the physical and moral well-being." (p. 67).

Passing to the field of "Corporal and Mental Exercise" (chapter iii., p. 95), we find the marks of the same good sense and just conception of the subject. The reaction from the old habit of overstraining the mental powers has brought about an exaggerated passion for physical exercise. It is thought to be a fine thing for a young student at college to be a "rowing-man," a great base-ball player, an athlete, with the muscle of a prize-fighter. Our author contends (p. 99) that man's noblest achievements lie rather in the intellectual than in the physical departments of life, and he should not willingly be contented with accomplishments "wherein, try he never so hard, the monkey will always be his rival; but rather in those acquirements of mind and heart which only a *man* can achieve." Manual exercise should, therefore, be used as an aid to moral culture and mental excellence—as a means and not as an end.

Chapter iv. (p. 128) is an examination of certain moral and religious influences upon men's character and conduct; and at the outset we can cordially commend Dr. Gorton's view of religion as something which is "distilled in the human heart by slow and silent processes and is, in truth, as truly an evolution in humanity as passion or reason" (p. 129). As religion has its rise in the free activity of the fine feelings, emotions, and sentiments of men, the neglect of their culture is "incompatible with good health, usefulness, and the highest degree of happiness." Vice is an unnatural development, and "indicates a unsound, ill-balanced mental condition." All moral agents—as serene faith, cheerfulness of disposition, temperance, and, in a less degree, the cultivation of music, art, literature, the social instincts and true friendships—are important factors in the highest development man.

Those who have been wont to regard the whole subject as concerned with the keeping of certain physical

logical laws—or at most dealing with a few prescribed rules for exercise and diet—will do well to consider the ideas here advanced, which, looking beyond all superficial distinctions, deal with the general and universal—holding that no part of man's complex nature can with safety be neglected; that the body is the temple of the mind and the soul, and that these spiritual attributes are influenced by external agents as surely as the fleshly body is affected by outward and purely physical conditions.

The Science of Health. A New Monthly. Volume III., July to December, 1873. pp. 246. New York: Samuel R. Wells.

Six numbers of a monthly which is "devoted to the Restoration and Preservation of Health on Hygienic Principles" might fairly be supposed to contain—if not an examination of "the whole duty of man," viewed from a physical standpoint—at least a good deal of sensible reading. But, unfortunately, there is now as much "science falsely so called," as there was in times of less critical study and investigation. The "health manuals," the "hygienic journals," the newspapers and magazines, are overflowing with cheap writing about the laws of life, and the restoration of physical well-being. In order to make these works popular—and thus salable—the taste of the public, never too refined, is delicately flattered, and anything to tickle the ears of "the many-headed monster" is eagerly sought after. An examination of the "*Science of Health*" for the last six months shows a decided want of appreciation as to the requisites of a health journal of a high order. A few of the topics treated may be noticed. One of the early articles is entitled, "Are you Cat-footed?" in which "Howard Glyn-don" begins in this truly dignified style (p. 8):

"Don't get huffed, please! I do not wish you to specify the shape of your toes and the length and sharpness of your toe-nails. I am not making any investigations into the conformation of your foot; I simply want to know if you are nervously averse to getting your feet wet. In nine cases out of ten, 'yes' will be my answer; to which I shall say, 'Well, then, you are cat-footed!'"

The somewhat questionable deduction from this article is that one is always to hop unhesitatingly through mud-puddles, and if he gets his feet wet he can dry them with a brisk walk, and "toast them at the fire."

Another article is entitled, "How to make Lean Folks Fat!" wherein oatmeal mush and baked apples are pronounced cure-alls. Each number contains a department dealing with "Seasonable Dishes," and here we learn how to bake sweet-potatoes and prepare "hasty-pudding."

In "Voices of the People" there are "Answers to correspondents," who write upon every conceivable subject, from dyspepsia to cerebro-spinal-meningitis, not omitting frequent mention of the publications of S. R. Wells, "The Phrenological Journal," "The Science of Health," and the editor's works on phrenology, etc. Indeed, it matters little what the subject may be, these publishers are sure to receive their wonted meed of praise, and seem never anxious to conceal the popular enthusiasm concerning them! .

Such interesting subjects as these furnish articles for the magazine: Physiology of our Feet (p. 45); Hygiene (p. 57), discussed by "Polly A. Smith, M. D."; Agricultural, mechanical, and other Fairs (p. 79); Experience in Water-cure (p. 89); Ill-health of Teachers; or, Ruby's Experience (p. 133); etc., etc., *ad infinitum*. As a grand summing up of the whole matter, we learn through one of the contributed articles that the remedy for all the diseases, aches and pains, infirmities and afflictions "that flesh is heir to" is the constant use of "common-sense and the *Science of Health*." By all means, we say, the former; the latter would seem less indispensable.

AUTOBIOGRAPHY.

Memoir and Letters of Sara Coleridge. Edited by her Daughter. 12mo, pp. 528. New York: Harper & Brothers. 1874.

THE letters of distinguished people have always possessed an extraordinary attraction for the student of literature. He obtains through this familiar correspondence of friend with friend rare glimpses of mind and character which were never vouchsafed him in the pages of the formal essay, the poem, or the novel. It is the change from the imposing costume of dress-parade—in which the wearer is always slightly self-conscious and ill-at-ease—to the less elegant but far more comfortable undress uniform. We are brought, as by some magician's power, face to face with the objects of our interest and admiration, and that, too, by avenues which we had almost deemed inaccessible.

The great letter writers have always had their admirers and been sure of attention, while the more elaborate volumes of historians and sages have been sadly neglected. The gossiping epistles of Horace Walpole have been eagerly perused though the unnatural horrors of the "Castle of Otranto" have passed into oblivion. Cowper's delightful letters are heartily enjoyed by many who could confess to only a very mild interest in the trivial lines of "The Task" and the "Table Talk." The letters of

Mary Montague have long been considered elegant specimens of composition, full of common-sense and sprightliness, learned though not pedantic ; while to mention the name of Madame de Sevigné is to admit that literature owes much to the graceful and familiar style of letters which is scarcely possible in any other department of thought.

In later days no works have proved more popular than volumes of correspondence, memoirs, and autobiographies. The clamor for personal items even becomes a positive evil, and it has come to pass that we are in danger of being overrun with revelations of private matters with which the world has little or nothing to do. For it requires extraordinary tact and sound judgment on the part of an editor of such correspondence and posthumous writings to weed out from the mass of materials before him all portions that are only concerned with the fortunes of private individuals, and consequently have no real interest for people in general.

The entertaining and really valuable letters of Sara Coleridge have found a judicious editor in her daughter. She has carefully eliminated all that could in any way give offence to surviving friends and relatives, and has retained only that which is of general and positive interest to the reading world. We are not wearied by the tedious narration of unimportant incidents, which so seriously marred the diary and Correspondence of Henry Crabbe Robinson. We find more substance and real thought than we met with in the agreeable, but rather superficial, letters of Mary Russell Mitford, and a more racing and intellectual atmosphere greets us than that which filled the "Records of a Quiet Life"—the Memoirs of the Hare family.

The influences which surrounded the life of Sara Coleridge were indeed exceptional. From childhood her father's lofty spirit urged and inspired her to follow in the path of metaphysical and analytical thought. She possessed many of his mental traits and characteristics—for example, his fondness for exploring all philosophical and social problems—but she certainly surpassed him in clearness of thought and exactness of conception. She was saved from wandering in the mists of fog and mist, in which so many of her father's speculations lost shape and coherency, by a certain clear-sighted, far-reaching vision which could resolve the substance from the shadow, the actual from the fleeting and unreal.

Her acquaintance with Wordsworth, and her indefatigable study of his writings, still further gave tone and quality to her mind. She was a warm admirer of his poetry, at a period when much needless abuse was heaped upon him, yet her admiration was founded upon close study and investigation, and not upon a sentimental feeling or senseless fancy.

She lived, it must be remembered, in a time when speculative

thought—colored with a slightly metaphysical tint—held almost absolute sway. The Lake School of poets, with Wordsworth and Coleridge at their head, were bringing about a revolution in the world of poetry—the foundations of religion were being shaken—political questions were agitating the minds of both radicals and conservatives. And it was by no means strange that a woman of Sara Coleridge's decided mental powers, with a nature strongly argumentative and given to discussion, should have been deeply moved by all the signs of commotion and turmoil about her. She was born a student, an inquirer into the foundation of things. She could not rest contented with *facts*—she sought for reasons and explanations of *causes*.

Occasionally her letters evince an overcare and anxiety to obtain exact and definite results. A certain self-conscious tone mars some of her writings, which, always intellectually bright and entertaining, seems a trifle labored and forced. Possibly this defect arises from her lofty estimate of the importance and dignity of letter-writing, of which she says, after alluding to the necessity of cultivating social and kindly feelings by calls and friendly visits, lest the acquaintance wholly languish for want of proper care :

"Now it is exactly on this ground, and not in nine cases out of ten for the sake of communicating news, that letter-writing is to be advocated. It is a method of visiting our friends in their absence, and one which has some advantages peculiar to itself; for persons who have any seriousness of character at all endeavor to put the better part of their mind upon paper; and letter-writing is one of the many calls which life affords to put our minds in order, the salutary effect of which is obvious" (p. 159).

If, as an acute critic has observed, there be somewhat too much of this "putting her mind in order" in Sara Coleridge's letters, we can easily pardon it for the sake of the really excellent matter which they contain—their freshness and earnestness of thought, and their pure, lofty spirit.

These extracts from her correspondence are largely occupied with discussions of literary subjects—reflections upon books and their authors, which are often very just and acute, and always readable. She shows a wide range of study and a deep interest in all the best literature of the day. We can even trace the growth of her mind by the books which she is reading and the feelings which they arouse within her. Naturally she, the daughter of a poet and herself a writer of verses of no small ability, is constantly drawn to the best utterances of the great poets, and finds in them much help and comfort. We have noticed her admiration for Wordsworth; she enjoyed intensely Milton's majestic lines, and shows herself to have been a conscientious student of Shakespeare. She was familiar with the classic writers in Latin and Greek, and seems to have read the Italian and Ger-~~man~~

with facility. Her comments upon Dante are worthy of quotation, though rather of the feminine stamp :

"Dante utterly wants this genial, expansive tenderness of soul ; wherever he is touching it is in the remembrance of something personal—his own exile or his love for little Beatrice Portinari, or the sorrows of his patron's daughter, Francesca. Let him loose from these personal bondages, and he is perpetually raging and scorning, or else lecturing, as in the 'Paradise.' How ferociously does he insult the sufferers in the 'Inferno'—actual, individual men. You say this is imagination. Truly, if it were not the author would have been worthy of the maniac's cell, chains and darkness ; but surely the heart tinctures the imagination. . . . Dante ought to have looked upon the tortures of the lower kingdom with awe and a sorrowful shuddering, and not with triumphant delight and horrid mirth. But the whole conception was barbarous, though powerfully executed. You must not think that I am wholly an armadillo or rhinocerean, insensible to the merits of Dante, from what I have said. I think that his 'Divine Commedia' is one of the great poems of the world ; but of all the great poems of the world I think it the least abounding in grace and loveliness and splendor" (pp. 292, 293).

With her peculiar taste for poetry Sara Coleridge also possessed a strong inclination for metaphysical and argumentative discussion. In this respect she resembled her father, who apparently took the keenest delight in intellectual investigations, even though the results might be anything but satisfactory ; the goal quite as far off at the end as at the commencement of the search. If, indeed, "the reward is in the doing," if the prize is not so much in the result gained as in the proper employment of intellectual skill and strength, then thinkers like Samuel Taylor Coleridge have not lived in vain. But strong as was his daughter's admiration for her father's genius, she did not follow him into the obscure paths and intricate windings which he most loved. Her thought is generally clear and concise, though she deals with the most lofty, spiritual subjects. Her letters upon church issues and ecclesiastical dogmas, her discussions of doctrines and creeds, are always saved from absolute mysticism by her sound common sense. She seldom goes beyond her depth, though she by no means hesitates to wade out of the shallow waters.

We cannot omit to mention that her writings evince a most temperate spirit, free from all taint of bigotry, ready to find good in all that is good, while unsparing in her denunciations of what she deemed to be essentially wrong. Nor did she walk blindfolded in the way of truth. She believed heartily in the free discussion of religious themes, and nothing could be more explicitly hostile to that feeling which would claim the possession of *all* truth, to the exclusion of outsiders everywhere, than this statement made in the course of a letter to a friend :

"We cannot have clear, definite views, or know well what our professed tenets really are, or why we ought to hold them, unless we reflect upon them, and compare

them with the opposite ones which we reject. Persons who never do this are apt, I think, to become narrow, superstitious and bigoted, to think their own belief the only one that any wise and good person can hold, yet all the time not to know what that belief really is, or how far it substantially (not in words only) differs from that of other Christians with whom they disagree" (p. 221).

A life like that of Sara Coleridge needs no comment. It speaks for itself far louder than others can speak for it. It suggests, however, one or two practical applications that may not be so readily apprehended. It speaks at a time of noisy turmoil and confusion—a period in which false estimates are placed upon the real goods and blessings of life, of the possibilities of self-culture, and the happiness to be derived from every honest endeavor in intellectual pursuits. It suggests, as well, the possibility of growth in unselfishness, practical kindness and philanthropy. It indicates very clearly how much is to be accomplished by one who never falters in pursuing the right, or in living up, as far as may be, to the inward vision of ideal good.

MISCELLANEOUS.

Ten Minute Talks on all Sorts of Topics. By ELIHU BURRITT. With an Autobiography of the Author. 16mo., pp. 360. Boston: Lee & Shepard. 1874.

We are called upon, in this age of cheap book-making, to exercise a good deal of patience in our reading. We are expected, it would seem, to receive with equal amiability a volume of serious, earnest thought, which has cost the author much labor and time, and the collection of light sketches thrown off at odd moments, when leisure allowed, and published in the columns of some newspaper.

Mr. Burritt, "the Learned Blacksmith," as he has been called, has earned a certain right to a hearing, from the honest work which he has done for the bettering of the world, and we consequently open his volume with the expectation of finding in it something worthy of our attention. In his social sketches, under the title of "Incidents and Observations," he gives us glimpses of life here and there—in England and in America. We are introduced to a "Farmer's Harvest Home," a Quaker meeting in London, Commencement at Oxford, and a Ramble about the birth-place of Rip Van Winkle. In these short essays Mr. Burritt evinces some power of description and a genuine appreciation of the *spirit* of country life, and of honorable action and fair-dealing of man with man.

In his "Glimpses by the Wayside of History" he seeks to trace the progress of the national sentiment in different countries, as in the

Hebrew nation, in Greece and in Rome. Though these essays lay no claim to profoundness of thought, or extensive erudition, they show marks of research, and an evident interest in historical and political subjects. In his treatment of "Political Questions," Mr. Burritt confines himself to the matter of suffrage—for women as well as men—with a sketch of Horace Greeley, whom he calls the "greatest and last of personal editors."

Other departments of this volume deal with "Social and Artistic Science," "Industrial and Financial Questions," "National and International Questions." There is a certain stiffness in Mr. Burritt's style, which apparently results from his lack of early culture and training; but his writings are not wanting in sound sense and judgment, and are always worth reading for their suggestiveness and practical bearing upon matters of importance. They at least give some indication of power which may be employed to better advantage in some work of a more continuous and less ephemeral character than these "Ten Minute Talks."

The World to Blame. A Novel. By WALDORF H. PHILLIPS. Author of "At the Mines, etc." 16mo, pp. 190. Philadelphia: Claxton, Remsen & Haffelfinger. 1874.

THE argument of this story appears to be this: For much of the wrong-doing and the misery of life—for its apparent injustice and crime—the world is to blame. One of the characters, an innocent man, is convicted for the murder of his father, and meets with an ignominious death on the scaffold. From this incident the author proceeds to discuss the subject of capital punishment, which he regards as a barbarous practice, and one which by its very nature defeats its own ends. Crime is not really checked and murderers are not frightened into remorse. Mr. Phillips advocates imprisonment for life instead of employing this old relic of barbarism, and slowly, but we think very surely, the spirit of the time is indicating that some such reform will be made in the laws of our statute-books.

The sad story of Charles Wilton serves to point the moral that it is not only the duty of the world to punish the malefactor, but to so educate and protect the boy that the man shall not drift by natural impulse, and almost against his will, into crime. Charles Wilton's experience in prison presents in a strong light the need of reform in our institutions of this class. The present system of discipline is only calculated to send out the criminal a worse man than when he went into confinement. It remains for a more enlightened public sentiment to render

the months or years which a prisoner must spend in bondage a means of positive improvement, instead of, as is usually the case, actual injury. It will be seen that this story deals with no pleasant, holiday subjects. The author has a purpose in writing it, and though the management of the plot and details, and the conversations introduced, are not worthy of the leading idea and principle, the main thought of the book is forcibly presented. This is, as we have said, that for not a little of the so-called "crime" of the world the world itself is responsible. When society has regard for man as man; when prisons and homes of correction are in reality means used for reforming and not debasing the criminal; when poverty is not rendered the almost inevitable path to wickedness; when the helping-hand is outstretched to the weak ones who would otherwise fall and perish by the way—then, and not till then will the world cease to be blame-worthy for the sin and crime which it now sentimentally deplores, but will not seriously endeavor to prevent.

APPENDIX—INSURANCE: THE SPURIOUS AND THE GENUINE.

1. *The Whinings of those who would not be warned in time.* PASSIM. 1873.
2. *Documentary Illustrations of the difference between shoddy and silk.* New York, Hartford, Boston, Philadelphia, etc. 1873.

A CERTAIN portion of the public have changed their minds to a considerable extent in regard to Life Insurance during the past year. But those who have done so are by no means the most intelligent, or the most sensible portion. Indeed they are, in general, the reverse—the most short-sighted and most credulous. The misfortune for society is that this class are by far the most numerous, and in spite of our innumerable high schools, colleges and universities, male and female, they will continue to be so. We should always be prepared, therefore, for perturbations of some kind, and when they come, view them in their true light as natural phenomena.

If our good people do not excite themselves about politics, the difference between democrats, republicans, and radicals, or that between peace or war, they must, at all events, have their sensation, and they regard those who exert themselves most vigorously and persistently in getting it up for them as their worthiest benefactors and friends.

Only three years ago there was nothing like Insurance in the estimation of this large and impressive class. True, we have never said

that they were entirely wrong in this feeling; on the contrary we always admitted that the genuine article had a just claim, not only on their sober, enduring faith, but on their enthusiasm. What we warned them against was, paying out their money for all sorts of policies—taking no pains to discriminate between a paper utterly worthless and one worth all it represented, or promised to pay. This is what we battled against, but battled in vain. Nor did we regard it as particularly strange that the numerous and enthusiastic class referred to often seemed to give a preference to the worst class of policies in the market rather than to the best. At first sight this may seem inconsistent with the large mortality which has already taken place among the spurious rife. But there is not the least inconsistency in it. In no business or profession does the homely adage "Honesty is the best policy," apply with more peculiar force than in life insurance. It is equally true that there is no sort of business in which we may expect, with more certainty, that the results attained by those who engage in it, will sooner or later be influenced by the motives which actuate them.

Let us assume that two insurance companies commence business with an equal amount of capital—nay, let us suppose that the two companies are equal in every respect, except in their intentions. One resolves to act honestly and conscientiously, and depends for success on its industry, energy and perseverance. The other cares nothing for honesty, consequently nothing for truth. Its ruling motive and design is to get all the money it can. Need we say, it often happens that the company of the latter character makes more money at the outset, and sometimes continues to make more for years, than the one of the former character? A prominent and sufficiently obvious reason for this difference would be found in the fact that while the honest company paid all just claims, its dishonest rival paid none it could evade.

There was no use in telling all this in time to the thousands who now grumble and whine against life insurance. They bought shoddy for broadcloth and silk, paying as much for the former as the latter would have cost them—often much more, and now because the shoddy has fallen asunder rather soon, they place the manufacturers of broadcloth and silk in the same category with the manufacturers of shoddy! In other words, because the shoddy manufacturers have proved themselves cheats, it follows that all manufacturers are cheats!

It is in no boastful or exulting spirit we remind our readers that there was not one of the shoddy companies which we did not point out by name, again and again, in these pages, before it had time to do much damage, although no name was published by us until we found that mere allusions to its character, however pointed, had little or no effect. But once this fact was ascertained, no threats of libel suits, no

abuse in pamphlet form, or any other form, prevented us from denouncing the shoddy companies. In proof of this we may refer to our repeated denunciations of such companies, now extinct, as the Great Western Mutual, American Tontine Life and Savings, Widows and Orphans' Benefit Life, Excelsior Life, Mutual Protection Life Assurance of the United States, Economical Life, Hope Mutual, The Commonwealth Life, Craftsmen's Life Assurance, Standard Life, Empire Mutual, etc., etc.

We have yet in our possession, as curiosities, threatening letters from officers of almost every one of these companies, as well as from the officers of several other companies of the same stamp, which still manage by a certain sort of legerdemain to eke out a discreditable existence; but whose untimely end is inevitable. In short, the only life company which has failed whose failure we had not predicted, was the National Life of New York. But this was never a shoddy company—never belonged to the quack tribe. Its first principal officers were honest, energetic, intelligent men. One retired about a year ago, the other remained to the last. On several occasions we gave expression to our full confidence in the integrity of both. But we always qualified our observations in regard to the National by remarking that it was a modest, unpretending company that had never the advantage of a large capital, or a strong pecuniary basis. If, during the late panic it deemed it best to retire from the field, we believe it did so with conscientious and honorable motives, and that if any of its policyholders suffer they will do so in the hands of the company to which their interests have been transferred.

On this point, we confess we are not very sanguine. Our readers are aware that we had never much confidence in the National of the United States; and we think there is good reason why we should have still less now. With Jay Cooke & Co.—on whose prestige as wealthy bankers it had chiefly to depend—any extremity to which it might be brought—reduced to bankruptcy, none properly informed on the subject would expect much from the president of the company, Mr. E. A. Rollins, who may be very smart politician, but never was, and never will be, a good underwriter. Since it is well known that the company was in a moribund condition, with the wealthy bankers of the American government its back, surely now that it has only Rollins at its back, and a few men like him, its prognosis must be regarded as most unfavorable—much so, indeed, that a fatal issue may be expected, with only much confidence, at no distant period. We cannot, therefore, hold the National of New York altogether blameless. It should not have made such a transfer of its policy-holders.

There was no lack of companies under whose auspices the

night have felt perfectly safe. To find one of this character it was not necessary to go beyond the Manhattan Life, the Equitable Life, the Continental Life, the North America Life, or the United States Life. Any of these could have afforded ample security; that is, if they were willing to undertake the responsibility. But since the National went beyond its own city it could hardly have gone in a worse direction in search of genuine insurance than to Philadelphia. Far be it from us to libel the Quaker City, and certainly it were no better than a libel to deny that it has as many honest honorable men as any other city in the world of equal population. Most cheerfully do we also bear testimony to the fact that it has some excellent institutions, but its insurance companies are still worse frauds if possible than its colleges and universities, which are notorious throughout Europe, as well as America, for their false pretensions.

There is, however, one life insurance company in Philadelphia that may be regarded as an exception to the general rule—we mean the American, which under the judicious management of Mr. George W. Hill has taken rank among the best companies in the country; but if all the rest were put together, and their assets placed on one pile, the retired National Life would have made a better disposition of its policy-holders by securing for them the protection of the Mutual Benefit of Newark, N. J., than if it had secured new policies for them from each of the whole tribe; not excepting the Penn Mutual Life, which, curiously enough, has been allowed to take charge of the policy-holders of the defunct National Capital Life. But, fortunately, this concern had so few policy-holders, that it would have mattered little to the public what disposition was made of them. No doubt most of those acquainted with the character of the company whose policies they selected, would say that they deserve to be roughly handled for having allowed themselves to be so easily duped. Assuming this to be the fact, none could have wished them a worse fate, as a punishment for their credulity and shortsightedness, than to have fallen into the net of the Penn Mutual, and been made to depend for provisions for their widows and orphans on the tender mercies of S. C. Huey, president, etc.

We have said that when we found mere allusions to the shoddy companies, or descriptions of them, had little or no effect, we did not hesitate to give their names in full. Nay, sometimes we took the liberty of bestowing names on them which were much more characteristic of them than those they had assumed themselves. Those who now decry Life Insurance in general, because taken in by the shoddy ones, can hardly deny that this should have been warning enough.

But we did not confine ourselves to this. We did not merely point out the shops in which spurious bills were manufactured; we also pointed out the establishments whose bills were as genuine and good as those of any bank. A dozen of years have now elapsed since we gave a list of the latter class, maintaining that the whole number did not exceed twelve or fourteen, and that these were quite sufficient to insure all who wished to be insured. Of this number some two or three became demoralized in time, and, it will be remembered, that we did not fail to denounce them accordingly. It will be admitted, moreover, by all disinterested persons who have devoted any attention to the subject, that the companies alluded to have since exhibited ample proof of their demoralization.

Take, for example, the cases of the *Ætna Life* and the *New York Life*. The former we used to rank with the best companies in New England, such as the *New England Mutual Life* and the *Phoenix Mutual Life*. There were not better companies at the time anywhere than these; nor are there now. Time has but strengthened their honorable prestige. Upon the other hand we used to rank the *New York Life* with such companies as the *Manhattan* and the *Equitable*. Certainly, as in the case of the *Ætna*, no higher praise could have been conferred upon it than this. It was by no means sufficient, however, to satisfy its greed in that respect. Nothing less arrogant than to claim superiority above all other companies would please its Bantas and its Beers. It is not necessary that we should enter into details now to show how these two companies have degenerated.

Under the auspices of its late president the *Ætna Life* was undoubtedly a good company. While the gentleman who presides now was the secretary of the company he elicited general approbation by the judicious and efficient manner in which he discharged his duties. Nay, we are quite willing to concede that to his skilful and persevering efforts more than to ought else was due the remarkable progress of the company for several years. But once he becomes president there is an entire change. All of a sudden his views and motives seem completely altered! We took the liberty of intimating in a friendly spirit, from time to time, that the new policy of the *Ætna Life* would, if persisted in, very soon prove the traditional penny wise and pound foolish policy. And so it notoriously has already. Certainly the company no longer ranks with the *Phoenix Mutual*, the *New England Mutual*, or the *Charter Oak*, but rather with such companies as the *Traveller's*, the *Hartford Life and Annuity*, etc. In our last number we alluded to the *Ætna's* new mode of conferring endowments, and granting annuities for a consideration, referring to a certain case in Maiden Lane in this city as an illustration. The thing had such an ugly look ab

it that something in the way of a whitewashing process was deemed necessary. Accordingly quite a large number of whitewashers have been hard at work during the last two or three months. When work of this kind has to be done the Insurance Spectator is sure of a good job, for it is well known that none will put on a thicker coat, without much regard to the facts of the case, if paid their price, than the Goodsells. We are not at all surprised, therefore, to find in the December number of that veracious organ, three broad columns headed in large capitals, "Interview with President Enders," etc. What the real nature of the whole thing is will be sufficiently evident from the opening of the performance, which runs thus :

"The following is a report of an interview had with Mr. Thomas O. Enders, the distinguished life underwriter and president of the *Ætna Life Insurance Company of Hartford*. The *Ætna* is one of the oldest and largest of American companies, *its agents cover the whole country and its policy-holders are to be found wherever a solicitor or an insurance appeal has been able to penetrate*. This great constituency will be pleased to learn the professional opinions of the man upon whose intelligence and administrative ability their interest so much depend, and to know the position of the *Ætna* upon some of the mooted points of company policy. The interview therefore possesses a peculiar interest and will be widely read."

We italicise an assertion or two which we should regard as a serious affair, did we not take into account the source whence they come. If it were true, even approximately, that the agents of the *Ætna* "cover the whole country," etc., none should be surprised at the late panic; still less wonder would it be that so many have become disgusted with life insurance. On the same hypothesis we need not expect any revival in business until, at least, a part of the incubus has been removed. But let us proceed to the real object of the "interview," the whitewashing process :

"THE SPECTATOR.—This reminds us that a statement is going the rounds of the press, that Mr. Schuyler, of the house of Schuyler, Hartley & Graham, of New York, has begun proceedings against the *Ætna* to recover the amount due on a five-year endowment policy of \$20,000. It is alleged that he has paid the company \$12,000 in premiums, and was offered at the expiration of the policy about \$12,000, the claim being that the balance was covered by uncanceled notes. We quote *verbatim*, almost, from the floating newspaper paragraph. Were the circumstances in this case really like these ?

"MR. ENDERS.—Mr. Hartley, not Mr. Schuyler, was insured in the *Ætna* under a five-year endowment policy for \$20,000. The premiums were paid one-half by note. The surplus earned under the policy was applied towards the reduction of the notes, cancelling upwards of one-half the same. The remaining notes, together with some \$13,000, were returned him in settlement of the claim. The cash premiums paid by Mr. Hartley, were about \$14,000."

Even, according to this statement of the case, it would not seem a very profitable transaction to pay the *Ætna* for a five-year endowment

policy. But when it is borne in mind that "the distinguished underwriter" of the Goodsell's has a very plausible way of telling a story in his own favor, we think it will be admitted, taking this case as a specimen, that if the Ætna Life had ever any just claim to be ranked with companies like the Phoenix Mutual and the New England Mutual, it has utterly forfeited that claim.

As for the New York Life, our readers are too familiar with its questionable operations to render it necessary that we should enter into any details in reference to them here. In our opinion, if it had not sullied its escutcheon in any other way, its course towards its Southern policy-holders would have been sufficient to account for "its loss of caste." For some years it pretended to be the particular friend of Southern rebels. Even when they were most rebellious it was glad to get their money. If it ever refused to accept a rebel premium as long as it was possible for the rebel to pay, the fact has not come to our knowledge. But when it comes to the turn of the rebel, or his heirs, to be paid then the New York Life takes a different view of the whole affair. It discovers, all of a sudden, that rebels are entitled to no insurance! Accordingly, those who claim it must sue the company. Hence it is that the plan of the New York Life has been known throughout the South since the close of the war as "iron-clad insurance."

The latest case of this kind seems to be that of "The heirs of Dr. Samuel Bond *vs.* New York Life Insurance Company." The suit was brought by the Doctor's widow before the United States circuit court, in the western district of Tennessee. It is notorious that the judges of the United States courts in the rebel states are not above suspicion. At this moment one of them is threatened with impeachment for wilful and corrupt bribery, and several kindred offences. We are not aware whether the Daniel who has given judgment in the United States circuit court of Tennessee in the Bond case belongs to the tribe of jurists known as "carpet-baggers." At all events the decision of the court is all the New York Life could desire. No further comment need be made on this mode of insurance, than the remark that it would be almost sufficient to account, by itself, for the sadly diminished faith of the public in the value of insurance as a provision for the widow and the orphan.

But we have already shown how the mass of the public jumps at conclusions, how it places companies that have never brought the slightest stain on their escutcheons, but preserved them unsullied, in the same category with those of companies whose escutcheons are piebald with stains—stains not a few of which are so dirty that all the water in the Hudson, or even in the Mississippi, could not rub them out! There is not one of the companies we have mentioned above, and have been in the habit of mentioning

for years, as the representatives of legitimate insurance in America, against which such an accusation could be made, as the one, for instance, that secured for the Goodsell so handsome a job. And there is not one of the same companies which would not scorn to increase its assets or its dividends, by depriving southern widows and orphans of the provisions made for them in good faith by their husbands and fathers, for no better reason than that they are Southerners, and that their protectors were perhaps once rebels.

As for the two leading New York companies, and the two similar New England companies, we have mentioned, there is not one of them which has not paid again and again, without any merit, just such claims as those the constant resistance to which has mostly or unjustly earned for the company referred to the enviable title of the "Iron-clad Insurance Company." Owing to a certain misunderstanding, we were once led to believe that the North America Life pursued a course which we could not commend, but on this misunderstanding being explained there is no policy in which we had more faith than the registered policy of the North America, and our estimate of it remains unaltered. To this we need hardly add that we do not believe that company capable of pursuing the iron-clad plan, nor have we ever heard it seriously accused of any such.

The Guardian Mutual Life we used to criticise while it was under the auspices of a certain Doctor, who knew much more about pills than about policies. But when the Doctor received permission to retire, and was succeeded by one who not only understood his business, but soon proved also that he was resolved to perform it honestly ; when we learned moreover that the president had the good sense to avail himself of the long experience, and intelligent judgment of the secretary, none were more willing than we to acknowledge the claims of the Guardian Mutual for a fair share of public patronage. There is yet another company upon which we made some criticisms while it had a different president from the gentleman who rules its destinies now, but which, since that change was made, we have ranked among the best and the safest. To a majority of our readers it will be almost superfluous to say that we allude to the United States Life, a company which we are assured holds both the plans of the Ætna Life and New York Life in equal abhorrence. As for the New York Continental, there is not one of our old favorite companies—those we have been in the habit of describing as models—more incapable of pursuing any course calculated to injure the prestige of life insurance.

But what of the Mutual Life ? Our opinion of it has undergone no change. What we thought of it a dozen years ago we think now, namely, that it was managed in a fraudulent manner. Since we had no other feeling against Mr. Winston, and have not now, than a wish

for the sake of the great cause of life insurance, to see an honest, straightforward man in his place, there is no reason why we should attach more importance to that personage than he is worth, by devoting a long dissertation to his misdeeds in every number of our journal. It is sufficient for us, we think, that for more than seven years we never ceased to warn our readers against the operations of Winston. During this period none were so much abused by the insurance organs as we, and of all who acted as the bully or henchman of the great man, in incessantly throwing filth at us, the editor of the *Insurance Times*, who became his enemy about a year ago, was the most ferocious and most base. Now we leave the worthy twain to the tender mercies of each other. If the policy-holders of the *Mutual Life* are willing to continue their interests in the hands of a man on whom the legislature of the state has virtually passed a sentence of condemnation—a sentence which embraces the worst charges we made against him twelve years since—that is the policy-holders' affair, although it is also one in which the public at large is concerned so far as it is calculated to bring discredit on a great cause.

Although the above is but a mere outline of the evil influences by which the faith of the masses of the people in life insurance has been sapped for the time being, we think it is sufficient to show that the morbid feeling is but temporary. When it is borne in mind that the faith of the more intelligent classes remains intact, we can hardly seem unduly sanguine when we say that the revival of business in general, so long depressed by the panic, will give a new impetus to life insurance; and it is generally believed that this revival will be complete early in the spring. It is to be hoped that in the meantime the public will use more discrimination in selecting the companies from which they intend to purchase their policies, than they have hitherto done. As it has always been our habit to give what aid we could to those intending to insure their lives, we think we cannot do better now, in closing this article, than to mention a few companies, any of which may be regarded as affording an ample guarantee that its policies are worth all they promise on their face, and that there is not the least probability that any one now living will witness any serious depreciation in those policies. We, therefore, transcribe the following honored names: *Manhattan Life*; *Equitable Life*; *New England Mutual Life*; *Phoenix Mutual Life*; *Continental Life*; *North America Life*; *Guardian Mutual Life*; *United States Life*, *Mutual Benefit Life*.

We have abstained from pointing out the moribund companies in this article, preferring to postpone our criticisms until their annual statements are before us. But our readers may rest assured that the maladies of the whole tribe will receive due attention in our next, and that in each case as accurate a prognosis as possible will be given.

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- ART. I.—1. *Journal of Researches—a Voyage of H. M. S. Beagle Round the World.* By C. DARWIN.
2. *On the Distribution and Structure of Coral Reefs.* Ib.
3. *Researches d'Ehrenberg en 1839.*
4. *Corals and Coral Islands.* By F. D. DANA.
5. *Contributions to the Natural History of the United States.* By LOUIS AGASSIZ.

IN looking back on the mighty changes that have been, and still are, going forward on the earth's surface, the philosophic mind cannot but notice the apparent insignificance of the agents by whose instrumentality those changes are wrought out. No wise man will despise small things, and for this reason he will not fail to take precautions that may seem unnecessary to others. Neglect, apparently the most trivial, may be the cause of the most frightful accidents, or may inaugurate a series of wide-spread calamities.

On the other hand, influences that may seem to us ridiculously insignificant have achieved results that mock the fruition of the noisiest and most pretentious efforts. The

boring of minute insects may at last make a breach in a levee, and produce an inundation which will destroy thousands of lives and millions of property, converting dry land into a watery waste. But, meanwhile, other animals, equally minute, are laying the broad platforms, not of halls or temples, but of islands or even future continents, fitted for the habitation and sustenance of man. Neither is this the result of active exertion, as is popularly but erroneously supposed. The beautiful language of poetry has been, unfortunately, invoked to perpetuate this error, which prevailed universally up to within the last forty years. Sublime descriptions are given of the stupendous labors achieved by those minute animals—of the dwellings they construct, which afterwards become their tombs. There is, indeed, something poetic and fascinating in the idea of those tiny organisms—with consistent inaccuracy termed worms or insects—building marble palaces dwarfing in number the dwellings in the mightiest cities earth ever saw, or even in all earth's cities combined, whether they have passed away or still exist. It is equally pleasing and fanciful to read how the proprietors of these mansions held a perpetual fee-simple of their residences for purposes of sepulture, and founded nations whose individuals were almost literally as numerous as the sands of the seashore, and which existed in communities longer than the wildest vagaries of Hindoo legend claim for their mythological records! This conception, beautiful as it is, is now consigned, like many a cherished illusion, to the shadowy regions of fable. Like the growth of the lilies of the field, which toil not, neither do they spin, is the steady uprearing of those stupendous structures, which shame the proudest efforts of labor and skill. As the unconscious influence of a noble soul may, by firing the emulation of a great and kindred spirit, exert a more potent and permanent influence on our race than the achievements of others better known and apparently more successful, so the mere process of life in the development of these minute organisms achieves results in the presence of which the labors of the ant, and the

beaver, or the most arduous and protracted efforts of man himself are insignificant beyond comparison.*

Though the facts of coral formation may not be as fanciful as the poetic hypothesis, they are even still more amazing. Let us suppose for a moment that human beings existed so long, and in such vast numbers, on the earth's surface, that its crust, from ten to two hundred miles in depth, consisted of successive layers of human skeletons, cemented together by other solid substances intermingled with them, the constant mortality of each successive individual adding slowly and silently to the vast pile. This will give us a faint idea of the inconceivable numbers of the animals whose skeletons have mainly contributed to the formation of coral reefs and islands, and also the immense period during which they successively lived and ceased to exist. Each individual animal is technically termed a polyp, to which species of radiate nearly all the coral animals belong. A single cluster, branch or development, with the skeletons joined to a common base, may contain numerous polyps, and is termed a zoophyte.

Mr. Dana estimates the average rate of growth of a coral reef at five feet in a thousand years; Ehrenberg thinks it still less.† Many existing coral reefs are calculated to have a thickness of, at least, two thousand feet, and far greater thicknesses may possibly exist.‡ A mass of hemispherical coral, twelve feet thick, forming a single zoophyte, is estimated to contain 5,500,000 living polyps.

Now, when we reflect that in the Pacific Ocean there are continuous coral formations many thousand square miles in extent, and that the great Australian reef is over 1,000 miles in length, we can scarcely conceive the number of skeletons it would take to constitute such formations. We only know, that, allowing for difference of size, a single one of the many separate coral tracts of the Pacific would contain more skeletons than the

* Dana, Darwin, Agassiz.

† Dana, page 253; Ehrenberg, page 751; see, also, Lyell's *Prin. of Geology*, chapter last.

‡ Darwin, Dana, Lyell.

whole globe would contain human skeletons under the extreme supposition above mentioned. At the rate of five feet in a thousand years, at least four hundred thousand years would be required for the growth of a coral formation two thousand feet in thickness. Great as is this period, there are circumstances which render it probable that the actual time required would be far greater. In the first place, no living coral will grow on other living coral; * consequently, when a zoophyte ceases to exist, an indefinite period must elapse before growth is resumed. For this reason among others the coral growth is not uniform on any reef or island, but is distributed here and there in patches, sometimes of great extent, while other large areas are bare. † In the second place, as we shall see presently, it supposes a uniform rate of subsidence of the coral, corresponding exactly with its upward rate of growth, otherwise a lateral formation will occur, which in any event would subsequently delay if it did not altogether check the outer growth. For these reasons the time required for a reef of the above thickness would, in all probability, be far greater than the above estimate. The greatest depth at which living corals have been observed does not exceed twenty-five fathoms. ‡ Ehrenberg gives only six fathoms as the range on the Red Sea reefs, but Capt. Moresby § and Lieut. Welstead found them at a depth of twenty-five fathoms in a place where the water was unusually pure and free from sediment. Agassiz observed that the reef-building corals of Florida did not extend below ten fathoms, but Mr. Pourtales found one or two species at a depth of fifteen fathoms. Darwin and Dana agree in giving the ordinary limit of coral growth to be twenty fathoms. Under these circumstances it may be asked how reefs of the enormous thickness just mentioned can be formed.

* Ehrenberg.

† Dana, supra.

‡ Kotzebue's Voyage, Capt. Moresby, etc.

§ In observations elsewhere it may be remarked that Capt. Moresby never found living coral at a depth greater than twelve or fifteen fathoms. See Darwin.

It can only be explained on the theory of a gradual subsidence of the land, and unless the rate of subsidence exactly corresponded with the upward elevation of the coral reef, it is obvious that when the surface of the water was reached, above which the zoophytes cannot exist, they can then extend only in a lateral direction, till a further subsidence enables them to extend upward once more. This gradual subsidence, now universally admitted, is of itself a complete solution of all the various processes and appearances observed in the different stages of coral formation.

Before illustrating this point, we shall briefly notice the old theory that prevailed up to a recent period, but which must now be regarded as abandoned. It was observed that the form of most coral reefs and islands was circular or oval, inclosing a lagoon or lake of more or less extent and in turn surrounded by a deep ocean. These islands are known by the name of *atolls*. Their appearance very naturally gave rise to the theory that the bed of the ocean immediately below the circular formation was simply the crest of a submarine volcano, of which the enclosed lagoon was the extinct crater. In those cases where the lagoon enclosed within the reef contained other islands, they were regarded as smaller cones rising from the interior of the large crater, as in the great Hawaiian volcano. This theory the first examinations and researches seemed to confirm. In the first place, the coral regions of the Pacific Ocean, where the atolls are most numerous, were beyond all question originally the seat of volcanic action, and though this agency is extinct where the coral regions actually exist, its present activity in Hawaii, the New Hebrides, the Ladrões and other islands, exhibits to us what was once the common condition of the whole region in question. Secondly, in some places, as for instance the Gambier Islands, rocks composed of porous lava rise up in a lagoon bordered by a circular reef. Thirdly, in islands of undoubted volcanic formation, the harbor is often formed by a narrow breach in the cone, converting the crater into a circular haven. In like manner there is often a single deep passage, leading from the

sea into the lagoon of a coral island, forming a harbor which seems the exact counterpart of that formed by the crater. Lastly, the numerous islands in the Galapagos Archipelago have their southern sides the lowest and in many cases broken down, so that, if submerged and incrustated with coral, they would resemble true atolls in shape, the latter having their windward sides always the highest.*

Nothing, then, would seem at first sight more probable than the theory of the formation of those islands from the craters of extinct volcanoes, and this opinion was, for some time, all but universally accepted. Grave objections, it is true, were urged by some against the theory; but, like most researches after truth, they were at first deemed impertinent cavils. With the progress of investigation, however, the objections multiplied, and the able and exhaustive researches of Darwin and Dana have finally broken it down altogether. The objections to the old theory may be briefly summarized as follows: First, the volcanic cones were originally formed either above or below the surface of the sea. On the first supposition, the crater would sink beneath the waters, and, except in rare instances, would be destroyed during the subsidence. Secondly, on the old theory, craters should exist over fifty miles in diameter, while craters over thirty miles in diameter were of common occurrence. No facts give any countenance to such an assumption. Thirdly, on the same supposition the high islands of the Pacific Ocean, encircled by coral reefs, should abound in craters. On the contrary, the three nearest groups to the great coal region, viz., the Marquesas, the Gambier, and the Society Islands, contain, so far as known, no craters whatever. But what gave the finishing blow to the theory is the well-established fact, that the extreme depth at which living zoophytes have been observed does not exceed twenty-five fathoms. This would not only necessitate the presence of innumerable volcanoes throughout the Pacific Ocean, which were, without exception, almost identical in

* Lyell's Prin. of Geology, last chapter.

height, or, in other words, equidistant from the sea level; but, as before noticed, in view of the thickness of most reefs, in any event necessitates the theory of gradual subsidence, which of itself is sufficient to explain all coral formations.* Some writers have supposed that those islands were formed on immense shallow plateaux or submarine banks; but besides the great improbability of this supposition, which we shall explain further on, it gives no explanation whatever of the lagoon structure.

We shall now show that the theory of gradual subsidence, necessary under any circumstances, is alone adequate to explain all the phenomena of coral formation however varied or complex. Let us picture to ourselves an archipelago, mainly composed of three large islands in the Indian Ocean, existing in an era far remote. Suppose them to be situated west of Hindostan, and to extend from 14° north to 8° south latitude. The centre island is about 600 miles in length by about 80 in breadth, about equal in size to the New England States, or the State of New York. The two other large islands are more compact in shape, but less than half the area of the centre one. The centre island has two parallel ranges of lofty mountains, running longitudinally through its extent. The mountains on the other two are not quite as lofty, and the southern one contains a number of lofty plateaux or elevated table lands. They are diversified with forests, mountain ranges, valleys, rivers, hills, dales, and probably inland lakes. In the same clime as Ceylon, they would doubtless be as rich and luxuriant as the latter in its rare productions, and would be far more extensive. Let us suppose each island of the above archipelago to be encircled by a coral barrier reef, which, previous to any subsidence, has grown to the sea level. Each of these barriers, particularly in the larger islands, is interrupted by numerous wide passages, entirely free from coral. The reason is two-fold. In the first place, the zoo-phytes cannot exist in fresh water, or in water holding much

* Darwin, Dana; Lyell's Prin. of Geology.

sediment in solution. They are epicures in their own way, these polyps, and require for their existence pure sea water, uncontaminated by earth or river. Wherever, then, the larger rivers of that island flow into the sea, bringing down their accompanying sediment, the coral will not be found. Opposite beetling cliffs, or precipitous shores, indicating deep water, close in shore, coral will also be absent, as it only grows in limited depths. These reasons, with long extents of sandy beach, may possibly cause interruptions of the coral formation for considerable distances along the shores.

We shall now suppose that a general subsidence of the entire Archipelago has set in. Slowly but inevitably these large and beautiful islands sink, the sea gradually encroaching on the lower portions of the coast, and penetrating in deep, arm-like bays into the valleys and dales of the interior. The surrounding coral formations participate in this subsidence, and here we are in presence of a beautiful and interesting fact. While the polyps may exist and multiply at the depth of fifteen or twenty fathoms, they prefer to live as near the surface as possible;* consequently, as soon as the reef is submerged, the summit will be their favorite location. Hence, as the reef, in common with the island, subsides, the coral formation again grows constantly to the surface. Thus, while the island is steadily sinking, and the sea continually encroaching on its shores, the outer wall remains as before, bidding defiance alike to the mysterious operations of the earth and the wild storms of the sea. It would be very far from the truth, however, to assert that storms have not a very important effect on the modification and distribution of these formations. Sometimes large masses of coral are torn away and hurled violently to the shore; the debris being occasionally piled up to an extraordinary height. Hence the windward sides of coral islands are invariably higher than the leeward, and the passage into their lagoons is invariably in the latter direction. Storms also smooth and polish the formation, filling up the

* Dana, page 257.

pores of the dead zoophyte—which is but a portion of the whole coral—and cementing it with the fine coral sand, worn by the action of the waves, and the remains of shells and other marine organic products. At this stage, too, nullipores and other corallines, differing from coral animals in being true vegetables, also in their superior solidity, having no visible pores or cells, frequently grow on the outer reef, solidifying the mass still more, and from their hardness far exceeding that of the limestone, helping to secure it from the abrading action of the waves. These vegetables, however, are by no means universally present, nor is their presence necessary.* The action of the storms on the coral distribution will be evident in the case of the islands under consideration. So tenacious of life is the zoophyte, that, though hurled by the storm from its parent stem, it is ready to sprout on any rock where the polyps can find quiet long enough to secure a firm attachment.† As the subsidence progresses, the deep arms of the sea, embaying each island, finally meet, converting each respectively into a group of islands, consisting of the plateaux and other higher ground of the former islands. The storms now cast fragments of living coral on the rocks adjacent to the new islands, or the lateral growth of the coral may reach the islands nearest the reef.‡ The result is, that the new islands in the course of time are encircled, each by a new reef, and, although the greater part of the land has now disappeared, several of these islands, particularly in the central and southern groups, are still from 500 to 4,000 square miles in extent. The submergence continuing, the plateaux on the secondary islands, gradually declining till they become level plains, at length sink below the sea level. The former mountains, now reduced to moderate elevations, become in turn groups of still smaller islands.

We now have a number of very large reefs, encircling spaces of sea many thousands of square miles in extent, and

* Dana.

† Ib.

‡ The latter is probably the case in most instances. See Darwin.

within these spaces are many other reefs inclosing groups of small islands. The subsidence has at this time become so great, that the water between the great outer reefs and the secondary reefs inclosing the islands is now very deep, and the outside ocean, immediately beyond the reef, is still deeper. Hence, as the zoophytes must live in deep water, and there is no possibility of further lateral extension, the outer reefs gradually become narrower, and finally disappear altogether.* The same phenomenon would occur still more rapidly, if at this point the subsidence should become somewhat more rapid than the coral growth. Sometimes, it is true, the coral will expand from a comparatively narrow stem into a large tabular mass, resembling an enormous umbrella. These are called chapeiros and mushrooms. In the Abrolhos Islands and in certain regions of the Pacific tracts of ocean are covered with these, but they only occur within outer reefs, on comparatively shallow plateaux, where the tides are moderate and the water is comparatively smooth and protected from storms. Otherwise, from their very insecure foundation, they would evidently be quite unable to withstand the fury of the ocean storms. Near Tongataboo the United States exploring vessel Vincennes ran on one of these plateaux, but instead of being stuck fast, the whole plateau broke off from its stem and disappeared, leaving clear water for future vessels, where the chart once indicated a sunken reef. Not a particle of injury was done to the vessel; but, though similar occurrences are not uncommon, vessels usually are not so fortunate, and the reef proves more firm and refractory.†

The reader will now bear in mind that the great reefs encircling the original islands have disappeared, and, with the continued progress of the submergence, are buried far out of sight. There remain three distinct groups of reefs or large atolls, where the secondary islands once stood, and these generally inclose small islands consisting of the

* See Dana, page 323; also Lyell, Principles of Geology, chap. 50.

† See Prof. Hartt's Geology and Physical Geography of Brazil.

mountains or higher plateaux of the original islands, some of which are now down to the water's edge. In the centre group these large atolls are in two parallel ranges for hundreds of miles, indicating the presence of the two original mountain ranges. In many instances, particularly in the southern group, the reefs inclose level spaces, which were originally the high plateaux, a feature which, as before observed, prevailed in the southern island. These being soon submerged, and probably affording in most instances no proper surface for coral growth, become huge atolls, inclosing spaces of open water sometimes from 2,000 to 4,000 miles in extent. These reefs, consequently, share the fate of the outer reefs, and are in turn submerged. Meanwhile, most of the islands inclosed within the other large reefs gradually sink to the water's edge, and are, in most cases, surrounded by a separate coral reef, as before. These interior atolls are thus inclosed within large atolls, and it is noticeable that the interior atolls are in most instances near the outer reefs, indicating the lateral extension of the coral from the latter. Thus the central space within most of those reefs is a large sheet of open water. In a few instances islands will be formed on the outer reef line; while the inner atolls will be in many instances a series of islets encircling the inclosed lagoons. With continued subsidence, the smallest of those inner atolls diminish in size, and the inclosed lagoons become finally dried up by the detritus washed into them from their respective reefs, or the inner reef itself alone remains, rising from the water only in occasional places.* The original central island, having the loftiest mountains, and in general the highest elevation, would be the last to reach the above condition.

Let us suppose this island, then, to consist now of groups of large reefs, inclosing spaces thickly dotted with atolls, with small islands of low elevation, and with rocks, while the intervening space is dangerous with sunken coral rocks. The secondary reefs of the northern group, in consequence of the

* Dana; also, Agassiz on Florida Reefs.

lower elevation of the northern island, or a somewhat more rapid subsidence in that quarter, have meanwhile all disappeared, together with most of the inner atolls, a few small coral islands alone being left; while the south group contains a few coral islands of somewhat larger dimensions than the other groups, with a number of submerged banks, some of which are of great extent, but all of which are submerged atolls.* The spaces between each outer reef are deep water, never less than from 150 to 250 fathoms, often far greater, while the surrounding ocean is still deeper. The subsidence has now ceased, or is so small as to be unnoticeable, while three distinct clusters, as above described, cover the ocean for a space of over 1,500 miles in length.

The above is no imaginary sketch, but an accurate description of the effects that would follow from the subsidence of the supposed island. It not only explains in a most beautiful manner all the successive phenomena attending the formation of coral islands during subsidence, but is a complete elucidation of a process which would exactly produce the present condition of the Laccadives, the Maldives, and the Chagos group in the Indian Ocean; and we give this particular example as the most perfect illustration we know of all the successive steps in the process of coral formation. The two parallel clusters of huge atolls in the Maldives still exist, inclosing within their limits other smaller atolls, besides islands, rocks, and intervening coral reefs. In the Laccadives the outer atolls have disappeared, indicating a still greater subsidence, and a few small islands alone are left, over which the storms of ocean occasionally sweep. Such a catastrophe occurred in 1847 on the two largest of these small islands; a terrific hurricane sweeping over them, uprooting the cocoa-nut and other trees, filling the wells with salt water, destroying the houses, and causing a loss of 1,500 lives, nearly all the inhabitants on the islands. The Chagos group contains some islands of moderate size, with a number of sunken banks,

* Lyell, as before, chap. 50; Dana. Capt. Moresby.

which all authorities pronounce as submerged atolls. The great Chagos bank, oval or nearly circular in shape, is an example of one of these, being 80 miles long, and consisting of a fringe 4 to 10 fathoms deep all round the rim, thence descending rapidly to a depth of 40 or 50 fathoms throughout its interior.*

As before observed, the larger a coral island is the more numerous will probably be the entrances into its lagoon. They are always on the leeward side, which renders the harbor more secure and easy of access, and is of singular advantage to navigators. Sometimes green islets dot the lagoon all around, interrupted by bare reef rock or the various passages into the lagoon. It is a beautiful sight to observe from shipboard a succession like this of verdure-clad isles, which, like emeralds surrounding a ring, gem the line of the reef, inclosing within the bosom of the atoll an expanse of comparatively smooth water. Since the formation of the coral corresponds with the slope of the shore, as subsidence progresses the atoll diminishes in size, except when it rests on a level plateau. At length the lagoon is obliterated from the lateral growth of the coral over its surface, and the detritus accumulated from the wearing of the reef. Thus the very small islands have no lagoon, but usually a slight depression in the centre. Occasionally in larger islands the lagoon is obliterated by the growth of the barrier reef all around, gradually cutting off communication with the sea. This causes its disappearance from evaporation. A slight upheaval, subsequent to the era of subsidence, produces, of course, the same result.

Perhaps some of our readers may suppose that, apart from the thickness of coral reefs, the theory of subsidence is quite gratuitous and unsupported by other evidence. Though this evidence is in itself sufficient, and the theory itself explains every phase of the formation, to regard it as the sole or even the chief evidence of such subsidence would be quite erroneous.

* See Dana's Map, page 192.

The gradual subsidence of large tracts of land rests on well-established evidence, quite independent of that derived from coral growth. The island of Heligoland, in the North Sea, was, 1,400 or 1,500 years ago, a large island, the home of a considerable portion of that Anglo-Saxon race who afterwards conquered and occupied England. For a long period it has been gradually sinking into the ocean, and it is less than half the size it was in 1807, when seized by England. Some years ago it was less than a mile in diameter, and still decreasing. At no distant day it will probably disappear altogether. The northern part of Jutland, once a peninsula, has been within the last thirty years converted into an island by the Lymfjord. The encroachments of the sea on the eastern coasts of England and Scotland are well known, some towns and villages having disappeared and others been removed further inland.* For at least four centuries the western coast of Greenland has been subsiding for a distance of 600 miles. Ancient buildings on low, rocky islands and on level ground near the main shore have been submerged, and the Greenlander, for this reason, never builds his hut near the water's edge. In one instance, Moravian settlers had to renew more than once the poles on which their large boats were set, and the old poles still remain beneath the water, measures and silent witnesses of the change.† But, perhaps, the most singular instance of present action is afforded by the peninsula of Scandinavia, where a tilting motion of the whole region is observable. The result of this singular movement is an upheaval of the whole, from the North Cape to Stockholm, a distance of over 700 miles, varying from more than three feet to a couple of inches in a century. South of Stockholm the upheaval ceases, and coming to southern Scandinavia a very perceptible subsidence has been proved. A stone at the water's edge, measured by Linnæus, was, a century later, 100 feet distant. Assuming the slope of the shore to be one foot in 200 feet, this rate

* See Lyell, *Prin. of Geology*, chap. xix.

† *Proceedings of Geol. Soc.*, No. 42 ; Lyell, chap. xxx.

would suffice for the formation of coral reefs. One circumstance is noticeable in the history of this subsidence. Sir Charles Lyell declares, after minute investigation, that there are clear evidences of alternate subsidence and upheaval. One of these he describes as follows :

“In digging a canal in 1819 at Soderstelje, about sixteen miles to the south of Stockholm, to unite Lake Maeler to the Baltic, marine strata containing fossil shells of Baltic species were passed through. At a depth of about sixty feet they came down upon what seems to have been a buried fishing-hut constructed of wood in a state of decomposition, which soon crumbled away on exposure to the air. The lowest part, however, which had stood on a level with the sea, was in a more perfect state of preservation. On the floor of the hut was a rude fireplace, consisting of a ring of stones, and within this were cinders and charred wood. On the outside lay boughs of the fir, cut as with an axe, with the leaves or needles still attached. It seems very difficult to explain the position of this buried hut without imagining, as in the case of the temple of Serapis, first a subsidence to the depth of more than sixty feet, then a re-elevation. During the period of submergence the hut must have become covered over with gravel and shelly marl, under which not only the hut but several vessels also were found of very antique form, and having their timbers fastened together with wooden pegs instead of nails.”*

Hitherto we have supposed the gradual subsidence in the Indian Ocean to be uniform. Assuming a temporary interruption of this movement, succeeded by a period of gradual upheaval again followed by a subsidence, the explanation of the phenomena becomes even simpler. Imagine the subsidence to cease while the secondary reefs are forming, and a gradual upheaval to take place. The water between the outer and secondary reefs is already too deep for any more lateral coral formation, as is also the outer ocean. As the upheaval progresses, the whole coral reef is bared to view, and the zoophytes cease to exist. A subsidence now recommencing will inevitably bury the reef out of sight. The same thing would happen to the submerged subsequent reefs, by the same phenomenon occurring at subsequent periods.

* Prin. of Geol., chap. xxx.

Though this alternation probably did occur, its supposition is not necessary, for even with a uniform subsidence the same phenomenon would occur, though it would take a longer period for the disappearance of the reefs. That alternations have occurred elsewhere is beyond dispute. Horden Island, one of the Paumotu, contains many deserted shells of the huge *Tridacna*, lying in clefts of the coral rock above the level of high tide in the lagoon. There are three entrances to this lagoon, two of which are now dry even at low water, while the third is dry at high water. All the indications on this island show an upheaval of two feet. Clermont Tonnerre in the same group indicates the same elevation, while Dean Island shows an upheaval of six feet. Elizabeth Island has perpendicular coral cliffs, over 50 feet in height; its re-elevation is calculated at 80 feet. Aurora Island, composed of coral limestone, has experienced an elevation of 250 feet. Its cliffs resemble the palisades of the Hudson, and are worn in some places into deep caverns. Its western side is the highest, whence it slopes gradually to the sea. The Tonga islands all exhibit proofs of elevation, varying, so far as ascertained, from 20 to 100 feet. In one island, Eua, coral is said to exist at a height of 300 feet. Through the Pacific in general these elevations occur. In the Ladrone Islands the greatest elevations have been observed; coral rock being found in two islands at a height of 600 feet.* These facts indicate that throughout the greater part of the Pacific Ocean the subsidence has for a considerable period ceased, and been succeeded by an upheaval, varying from an insignificant amount to 600 feet, and averaging, we should judge from the observations, some eight or ten feet. These upheavals, though very extensive, do not seem to be general or synchronous through the whole Pacific region. Sometimes they are confined to a very limited area, and vary considerably within that space; at other places they extend over entire island groups. With a few possible exceptions, the rise in all ap-

* See Dana, Lyell, Beecher, and others.

pears to have been gradual.* In a limited part of the Pacific region subsidence is still in progress. In the islands of Ua-lau and Ponape, of the Carolina group, certain sacred structures were built on small islets, which are now beneath the level of the water. What once were paths are now passages for canoes, and breaking down the stone walls allows the water to enter the inclosure.† There is reason to suspect a similar state of things in some of the neighboring islands. In the great coral region of the Pacific, stretching from the south-west to the north-east, a distance of 6,000 miles in length by 2,000 in breadth, the extreme southern and south-western portions exhibit high land, sometimes containing lofty mountains, fringed or surrounded with coral reefs. Proceeding northward, these are succeeded by coral islands with their accompanying lagoons. Approaching the equator, these diminish in size, till the lagoons disappear and they become small islets, which in turn disappear, and an unbroken expanse of water succeeds till we reach the Sandwich Islands. This proves that, beginning at the southern and south-western portion of this region, the subsidence steadily increases till the equator is reached, when finally the islets disappear altogether. Now, it is precisely near the line of greatest depression, where, if at all, the action should be longest continued, that the subsidence is still in progress, though it has ceased in every other portion. Beyond where the last isles disappear a wide waste of waters is seen for the space of 1,500 miles each way, reminding the observer of the blank, starless space in the heavens. Beyond this space mountainous islands again appear, showing that the subsidence has extended no further, or has had but a limited effect.‡

Thus, while the high and mountainous islands of the southern portion show that the subsidence has not wholly engulfed the original land, its total disappearance, succeeded by coral islands further north, proves the subsidence to have been

* Dana, etc.

† Hall, Wilkes' Expedition.

‡ Dana; Darwin above cited; also Lyell, as before.

greater, while the common disappearance of all land, with the succeeding coral formations, if any such existed, between the equator and the Hawaiian Islands, indicates when the subsidence was greatest. The reappearance of the Hawaiian group, with the islands due west, indicates that the subsidence has again diminished or has terminated at these places. Assuming, then, with all the latest authorities, that the Pacific Ocean once contained a great continent, or archipelago of large islands, where the above coral region now exists, and looking at coral formations in other parts of the world, it becomes an interesting question whether *all coral formations* were not originally barriers or fringing reefs to continents or very large islands, such as we have already assumed. The more we look at the facts, the more they favor this supposition. In the latest authorities all agree that the thickness of the reef, consequently the antiquity of the formation, depends very much on the distance of the reef from the shore.* For instance, the great Australian barrier reef is an example of one of the oldest existing formations. The exact thickness has not been ascertained, but from the depth of the water just beyond the reef it must be over 2,000 feet, and may be far greater. The outer depth is unknown. This result is naturally to be expected in consequence of its distance from the shore. This distance varies from twenty to seventy miles, and forms a natural harbor for a distance equalling that from Florida to Newfoundland.† The depth varies from ten to sixty fathoms.‡ Wherever the torrid or semi-torrid shores of large continents are engirdled by shallow seas with rocky bottom, and unaffected by recent volcanic action, cold currents, or the presence of large sedimentary rivers, there the coral formation is sure to be present. The southern coasts of France and Italy, the northern and south-eastern coasts of Africa, the shores of the Red Sea, with portions of the Brazil, California and Florida shores, show the invariable presence of coral under these conditions. In the Florida

* See Dana, pages 157-259; Darwin, page 356; Lyell's *Principles Geology*, page 791.

† A distance of over 1,200 miles.

‡ Jukes' *Voyage*; Dana.

reefs the subsidence is plainly indicated, and here we see a barrier reef with coral islands forming within and in some cases on it.* In case of a further subsidence of the Australian barrier it would disappear, and, if continued, the continent would share the same fate, leaving, as in the blank Pacific space above noticed, no indication whatever. Admitting the existence of a continent or group of large islands in this latter region, it is more than likely that, for a very large portion of its circumference, it has been fringed or surrounded with reefs that have now disappeared. The Bahamas and Bermudas afford present examples of such barrier reefs. The great Australian reef itself may once have been a continuation of the great Pacific reef system. The coral reef on the west of New Caledonia extends 150 miles *beyond the island* to the north, and sixty miles to the south, making a continuous coral barrier over 400 miles in length. The northern portion may once have been connected with the extensive reefs of the Louisiade group and those to the north of New Guinea, while the southern prolongation may have been continued west to the great Australian reef, *which terminates exactly at the same latitude*. Thus there would be an immense coral reef bordering the north-east of Australia and the entire western extremity of the great coral region of the Pacific. We may observe here, that the thickness of the Louisiade and New Caledonia reefs is enormous, being regarded as equal to those of Australia. The similar thickness of the Gambier reefs at the south-eastern extremity of this region may possibly indicate it to be a remnant of the same formation. As further evidence on this subject we quote Mr. Dana, who, we may remark, does not seem to favor the above theory. He says :

“In the East Indies the most extensive reefs are found in the *open seas* between the large islands, these islands at the same time often being without proper reefs, or with mere traces of coral. This is the case between Borneo and the range of large islands south ; the China Sea is another instance of it ; north of New Guinea a few degrees is another.”

° See Agassiz, above cited.

Mr. Dana attempts to explain the formation of these reefs as follows :

“ A sinking island becomes a more and more favorable spot for the growth of coral as it descends ; for as its extent diminishes, its streams of fresh water and detritus also decrease. It might therefore be expected, on this account alone, that such isolated spots of land, away from all impure waters in the open ocean, should become the bases of large reefs.”

In this explanation the distinguished author seems to have overlooked a very grave objection. With the subsidence of the island, the bed of the adjacent sea would also sink in nearly every instance, thus rendering it impossible for the coral formation to extend to any great distance from the island in question. Therefore, unless the island was small, and rested on a long, rocky plateau, or series of plateaux, covered with comparatively shallow water, or unless a chain of small islands should extend for long distances in such water, long barrier reefs could not be formed. There is no known instance of the existence of any such long, narrow plateaux, or series of islands extending over such plateaux, while, according to the above theory, they should be exceedingly numerous. The proverb, “ Bonus Homerus dormit,” seems applicable here, and we shall hence appeal from Philip asleep to Philip awake. Speaking of the formation of coral islands on such plateaux, Mr. Dana observes, page 256 : “ Shall we suppose, with some writers, that these islands were planted on submarine banks, within one hundred and fifty feet of the surface of the sea ? As has been said, there is no authority for the supposition. We nowhere find regions over our continents with elevations so uniform in height ; and submerged banks of this kind are of extremely rare occurrence.” Such being the case, and coral growing only at limited depths, it seems impossible to account on Mr. Dana’s hypothesis for the numerous and long barrier reefs now existing. It is far more likely and accordant with reason to suppose that, previous to a general subsidence, these mighty reefs had their origin in rocky, gently shelving shores, adjacent to large tracks of land, where the conditions of their development were otherwise favorable ;

and Mr. Dana unconsciously admits this a little further on, where he says : "It is thus seen that the earth is belted by a coral zone, corresponding nearly to the tropics in extent, and that the oceans throughout it abound in reefs, wherever congenial sites are afforded for their growth." The barrier reefs of the Bermudas and Bahamas afford further examples of the antecedence of the reef to the atoll formation. Indeed, Mr. Dana thinks that Florida, Cuba and the Bahamas may together once have been the south-eastern prolongation of our continent. But however this may be, we have given sufficient examples to indicate the great probability that all original coral formations were in the shape of fringing or barrier reefs, encircling large islands or continents ; and, indeed, this conclusion would almost seem to be a natural and inevitable corollary from the very theory of subsidence. From the facts we have given on this subject, the reader will now be prepared to draw the following conclusions :

First—The theory of gradual subsidence, with its correlative theory of upheaval, is of itself sufficient to explain not only all the various and complex phases of coral formation, but its presence anywhere on the earth's surface. Secondly—The thickness of most coral reefs is of itself sufficient to prove such subsidence, so far as they are concerned. Thirdly—The actual proof, even the very progress, at the present time, of such subsidence and upheaval, is established by undoubted and independent evidence. Fourthly—Apart from such subsidence all rational explanation of many phenomena would seem impossible. While demonstrating the fallacy of the theory that all coral islands originate from the craters of extinct volcanoes, Mr. Dana positively asserts that all the Pacific coral formations have their bases on rocks of volcanic origin, tacitly leaving the same to be inferred in regard to all other formations. Yet there is no proof of this, and the facts given in his work, the fruits of his personal observation, render it very doubtful. Coral formations are constantly occurring on dead coral of a former period, and there seems no reason why they should not form on kindred limestone rocks, or, for that

matter, on other rocky bottoms. That most coral rocks are *immediately* situated on rocks of volcanic, or rather plutonic, formation, is probably true, but this merely proves at what an early stage in the world's history the polyps came into being. That the *original* base of all coral rocks is plutonic is doubtless true, but then the statement would have no meaning, as the same is true universally of all rocks; that they are *immediately* based on such rocks is an unwarranted generalization. But we are not left to mere conjecture on this point, as there are existing facts in contradiction. Mr. Dana himself partly attributes the luxuriant development of the immense reefs of New Caledonia to the fact that the coral formations occur on metamorphic rocks. His language is: "This surprising extent is partly explained by the fact that New Caledonia is not a land of volcanoes, but, on the contrary, consists of older metamorphic rocks" (page 208). And yet two pages further on he says: "At whatever time the existing reefs in the Pacific commenced their growth, *they began about those of the igneous islands, whose fires had become extinct.* * * * Those lands whose volcanoes still burn are yet without corals, or there are only limited patches on some favored spots. Zoophytes and volcanoes are the land-making agents of the Pacific. The latter prepare the way by pouring forth the liquid rock, and building up the lofty summit. Quiet succeeds, and then commences the work of the zoophyte beneath the sea."

It is curious how one error produces another. To explain the formation of the immense barrier reefs of the Pacific, on the theory that they originated in volcanic islands, he is forced to make a generalization, which, two pages previous he has proved to be erroneous in the case of one of the largest barrier reefs in the world. There is some reason to believe that many of our secondary and chalk limestones are to a great extent of coral origin.* The fine coral weed washed from the Bermudas cannot be distinguished from English chalk; and in the

* See Lyell; also, Darwin and Dana.

Sandwich Islands is used on the blackboard in schools.* The limestones of the Alps and the Pyrenees, three or four thousand feet thick, are to a great extent made up of coralline and shelly matter.† In the Missouri valley as perfect specimens of coral are found as can be obtained in the Pacific. The interior of New Jersey and North Carolina, fifty miles inland, also exhibit remains of coral formation. These facts show that, when the average temperature of the globe was higher, coral formations were even more extensive than at present, and they are at this early period seen to be adjacent to large bodies of land. The coral animals will not exist in water whose average temperature is under 68°; hence they are generally found within the tropics. Their presence as far north as the Bermudas is probably due to the influence of the Gulf stream. On the western side of the Pacific the range of latitude seems to be still higher, extending to the southern extremities of Japan and Corea, doubtless from the influence of the Kubo Sama or great Pacific warm current.‡ In the warm waters of the Mediterranean, heated by African winds, coral is found abundantly. On the other hand, coral formations are comparatively rare on the eastern sides of the Atlantic and Pacific. This is due to various causes. First, the recent or actual presence of violent plutonic action in Western Africa and South America. In the latter, eruptions and earthquakes are still common, nor have they by any means ceased in Western Africa. In active volcanic regions zoophytes do not exist. Thus they are not found in Hawaii, though abundant in the western Sandwich Islands. In the Navigator Islands coral abounds everywhere except in Savaii, which abounds in extinct craters, and gives every proof of being the last seat of volcanic action. The volcanic fires must slumber for ages before the unerring instinct of these little animals will allow them to congregate in such vicinity. The reason is, that submarine eruptions are frequent as long as a volcano near the sea is in action,

* Lieut. Nelson; see Dana, page 358.

† Lyell, page 795.

‡ Isothermal Charts of Ocean; Dana and Darwin.

and these heat the water, destroying all life in their vicinity. After such eruptions it is common to see dead fish thrown in great numbers on the beach. Such an occurrence took place recently in a volcanic eruption of Mount Kilauea, in Hawaii, which, indeed, is only a repetition of what has been noticed in all the observed eruptions of this great volcano.

Another reason for the scarcity of corals in those places is the presence of the cold polar southern currents on the eastern extremities of the Atlantic and Pacific. These extend to within a few degrees of the equator. Westward currents in both oceans also have their effect. On the eastern Pacific shore the coral range hardly extends to the south of the equator, the southern limit being the southern coast of Ecuador. The violent earthquakes and eruptions characteristic of this region sufficiently explain the above, but the cold water current from the south also has an effect. This is evident from the fact that a little further west the limit does not even extend to the equator. Thus the Galapagos Islands contain no coral, and actual experiment proves a comparatively low temperature of the surface water in that vicinity.* Its northern limit is the southern extremity of Lower California. In the eastern Atlantic the southern limit is 5° south, the polar current not allowing it to extend any further, while the northern limit extends no higher than 10° north. This is caused by the large rivers and rocky shores of Senegambia, and further north by the drifting sands from the great African desert. These are the chief causes of the limit in this direction. Thus at this period the coral growth is confined to the torrid and warm temperate regions of the earth, and even within these limits it is modified by plutonic action, cold currents, mighty rivers, and sandy or deeply shelving shores. The latter causes account for the scarcity of coral in the north-eastern shores of South America, and the Asiatic coasts of the Indian Ocean. The zoophytes would seem to have a natural preference for ex-

* Captain Fitzroy, R. N.; see Dana, page 300.

tinct volcanic rocks, perhaps because these formations usually contain springs impregnated with carbonate of lime.* The ocean contains every substance found in the composition of coral. The lime exists in the form of sulphate, which the digestive power of the polyp assimilates, converting it into a carbonate. The carbonic acid for this purpose exists throughout the ocean in solution, and performs another part in the formation by cementing the fine coral sand and other detritus, which fill up the pores of the original zoophytes. It acts on this sediment precisely as the carbonic acid of the atmosphere acts on the cement and mortar used for building purposes, and the same hardening is the result, aided still more by the compressing action of the waves. Perhaps the sulphate of lime or gypsum may contribute to this solidifying process. The carbonic acid in the ocean is mainly derived from three sources. First, that which is deposited from the atmosphere by rains. Secondly, that which is derived from the respiration of all animal organism, however minute. Thirdly, the result of the decomposition of all vegetable or animal debris, whether existing in the ocean or obtained from the land through rivers or showers of rain.† Coral is composed almost wholly of carbonate of lime; in some specimens there is a small percentage of carbonate of magnesia. In nearly every instance there is a very small proportion of phosphate of lime, and sometimes traces of silica and fluorine. The cause of the delicate tint of the rare and costly rose-colored variety is said to be due to the presence of iron; an analysis leaving a ferruginous sediment, particles of which are readily attracted by a magnet. For many hundred years the precious coral has been gathered from the rocky bottom of the Mediterranean and its islands. The grounds from which it is obtained are systematically divided, so that a given spot is visited but once in ten years. The instrument usually em-

* So Lyell, from whom Dana differs; first, because facts do not require it; second, because Hawaii and other Pacific regions in action have no carbonic acid.

† See Dana, pages 354, 355.

ployed consists of two large cross beams attached at the centre, where it is rendered heavy by large stones or leaden weights. Passing all around the extremities are pieces of fine but strong netting, suspended from the under side. Sometimes the spaces between the upper extremities are occupied by pieces of partially twisted hemp, so as still further to entangle the coral. This instrument is now let down and dragged or dredged along the bottom. The pieces of coral broken off by the beams fall into the netting. Sometimes divers descend and arrange the apparatus in declivities and caverns, so as to make the haul more advantageous. When sufficiently heavy the instrument is hauled up. This occupation is laborious and dangerous, and often occupies the attention of six or even more boats. Should the rope break from the tension given to it by the great weight attached, the men are in great danger of being lost. The value of the catch varies considerably, ranging from sixty dollars per ounce to twenty-five cents per pound. The greater part is comparatively worthless, only a very small portion bringing the former figure.

Besides the Mediterranean Sea, the Persian Gulf is also noted for its coral fisheries, which supply most of the precious coral to Hindostan. It is found, too, off the coast of Sumatra.* In China precious coral is valued highly, both the red and white varieties being worn as insignia in the shape of balls in the caps of high official dignitaries.

The three principal colors found in corals are red, white and black, but there are innumerable intermediate tints. The tessellated pavement of some of those lagoons and grottoes, in the distant Southern seas, are said by travellers and voyagers to be gorgeous beyond description. The watery bed is laid with coral mosaics, black, white, red, orange, yellow, blue, in fact every conceivable color, and all of the brightest hue; while along the glittering floor, fishes of hue equally bright flash along in the sunshine. Occasionally, in the depths, grottoes of

* Homan's Dictionary of Commerce.

more than imperial splendor may be seen through the transparent waters. They seem like palaces built of the costliest gems, the dwellings of the Naiads, and when the sunlight glances on them, kindling their varied hues amid the play of the bright waters, the effect beggars description, and more than realizes the conceptions of the fabled palaces of the genii. Thus these apparently insignificant little creatures not only achieve results which men cannot dream of attaining, but create a beauty which the most refined human taste can scarcely conceive and utterly fails to imitate.

Nor is this fairy scene of enchantment dedicated to the enjoyment of the rich, the cultivated, or the proud, but is freely laid before the rude savage, whom we in our pride despise. Though the savage may not appreciate it, still it is there, and by a law of compensation he may receive this as we receive many blessings of which we are equally unappreciative. In our arrogance and insolence we may argue, that the rude islander has no right to this unprized blessing; that on him it is merely thrown away like pearls before swine. But perhaps it is one of the greatest of our boons, that, while the narrow-minded selfishness of humanity tends naturally to monopoly, the Architect of the universe thinks otherwise. One or two other reflections are in place here. Though these animals are among the very lowest in the scale of creation, they have, without any consciousness on their part, effected the most stupendous changes on the surface of our globe; nor has their agency yet ended. Perhaps, like them, we ourselves, at this moment, may be effecting great changes, in regions unknown to us and among other higher organisms of which we have no conception; but, in any event, it is our duty to act our part as we best know how. Again, the changes effected by these minute organisms, for good or evil, are utterly beyond our control; nor can we modify their action any more than we can save one microscopic creature from destruction by another. This should teach us how utterly futile our greatest efforts must be to modify, in the slightest degree, the purpose of that Being, who, amid His innumerable and boundless fields of

operation, never neglects for a moment any detail; who regulates alike the motions of the innumerable suns twinkling in space, and the pulsations of the tiniest animalcule; who never pauses in his work, and whose work never ends.

- ART. II.—1. *Works of JOHN STUART MILL.* London. 1873.
 2. *Works of LOUIS AGASSIZ.* Boston. 1856–1873.
 3. *Life and Works of JOHN STUART MILL (Memorial Volume).* London. 1873.

COMPARATIVE biography presents no more interesting and profitable study than that which is found in the lives of John Stuart Mill and Louis Agassiz—lives that were passed in the philosophic and scientific activity of the nineteenth century. In modern times men of great attainments, powers, purposes, endeavors, and successes meet the view of the observer on all sides. Genius, too, is not unknown, for the firmament of the present age glistens with bright names. The difficulty is in deciding who is great and who is not. But there are few, if any, to dispute the statement that Mill and Agassiz were great men—in themselves, in their works, and in the relation which they sustained to their own and subsequent periods. And it is as refreshing and ennobling to examine and compare the lives of the dead great, as it is sad and regretful to contemplate their loss to the world by death.

Mill and Agassiz were alike, then, in that they were both great; they possessed that abundance and multiplicity of personal power and resources which characterize greatness, and which place him who is great in the attitude of a ruler or teacher of mankind. The greatness of Agassiz was of the sympathetic kind; his influence was present and personal; virtue went out of him at every point of contact.

Those who knew him, personally, were his most devoted followers and persistent defenders. The warm, indefinable influence which acts principally upon the emotions, Agassiz possessed in a high degree. His readers felt his greatness less than his hearers, and his power was great in proportion, as it were, to the proximity of his person. Mill's greatness, on the other hand, was not of the immediate sympathetic character which requires the presence of the great man to make it felt by the admirer. The readers of Mill are fuller of admiration for him than his acquaintances and hearers. He could not be brought out by the ordinary circumstances of life, but reserved the exercise of his enormous powers for his meditative and strictly private moments. The greatness of Mill reached the world, not by contact, but through the medium of literature and reflection. The admirer of Agassiz *felt* his greatness, and the effect was instantaneous. The admirer of Mill came to a knowledge of his greatness by a reflective process. The effect of Agassiz's greatness was magnetic and emotional; that of Mill's was gradual and intellectual. Hence Agassiz was popular, Mill profound; the former was a general favorite, the latter a friend of the few; the former was appreciated at first, the latter only after being studied.

The difference between these two types of greatness depends upon various causes, which will appear as the discussion of the character and works of these remarkable men proceeds. An examination of the mental composition of Mill reveals the fact that he was pre-eminently of the intellectual temperament. Being trained from infancy in the study of the classics, mathematics, and metaphysics, under the guidance of a supremely logical teacher, his father, his naturally intellectual temperament was developed, and the emotional nature, being without stimulus or exercise, was left to languish. Mill tells us, in his autobiography, that his father was particularly averse to all exhibitions of what is called "feeling." The education of the child was, therefore, in accordance with the intellectual method, and with the idea that man is an intellectual being.

When he was able to direct his own studies and progress he seems to have inaugurated no change in this method, but found it in complete accord with his maturer wishes and tendencies. In consequence of the severe and varied intellectual discipline to which he subjected himself, he came to be, and to be regarded, the most "elaborated intellect of his time." Every faculty involved directly or indirectly in the reasoning processes was cultivated to the highest point. He became perfectly familiar with the principal works of philosophy, history, the classics, criticism, jurisprudence, politics, and studied art, poetry, and religious systems for intellectual effect, Mill thus became strictly a thinker. He was, it is true, a person of æsthetic and ethical potentialities, but they were always subordinated to intellectual purposes. The judgment was the determining factor in all his mental products.

Not that Mill was not humanitarian or philanthropic—his works on "Political Economy," and "The Subjection of Women," and his literary and parliamentary efforts for the education and elevation of the people, show him to have been both an admirer and a lover, in some degree, of mankind. But his philanthropy was of the cool, calculating, unfeeling sort that excites no enthusiasm and incites no fanaticism, or sacrifice, or martyrdom. Such an intellect commits or allows no excesses in action, it hastens no crisis, counsels or causes no sudden revolutions. But notwithstanding the constant suppression of the feelings in the culture and life of Mill, the emotional element in his nature seemed to gather in a single spot and break forth in a devotion simply romantic for the woman who became his wife. In this exceptional respect the philosophic Mill vies with the poetic Plutarch and Horace. But the characteristic qualities of Mill's mind were clearness, directness, strength, persistency, breadth, and profundity, forming an absolutely complete organ of intellectual power.

In many respects the psychological character of Agassiz was the reverse of that of Mill. Born of an emotional ancestry, on the continent of Europe, nurtured and educated under a mother's tender care, Agassiz was, by nature and

early education, an emotional person. His life was normally an outward instead of an inward life. Having a tendency toward the natural sciences, he early embraced their pursuit, and during all his subsequent career he pursued them with ardor. The intellectual faculties, which were in him and which this kind of life developed, were memory, perception, and a primary power of generalization, the three faculties essential to the scientist. But he pursued truth for the love of it, and not for the purposes of mental culture. A self-disciplinarian he was not; and he was particularly deficient in what is ordinarily called "method." He had friends without number, and his emotional nature unfolded itself constantly in society and among his scientific companions. The great sources and activities of his life were in the region of the feelings. But Mill used his advantages as a means of self-culture, while Agassiz studied natural science from a noble curiosity and a love for his work. Mill was reflective, Agassiz was perceptive; the former desired facts as a supply of mental food, the latter sought facts for the sake of having them; the former esteemed the *Ego*, the latter was occupied with the *non-Ego*; the former rolled the universe in upon himself, the latter opened himself outward upon the universe. Mill was a thinker, Agassiz a discoverer; the former absorbed his work, the latter was absorbed in his work.

Perhaps there is no respect in which these great men differ more widely than in the spirit in which they conducted their life-work. Mill's supreme endeavor was to develop himself, to evolve the *Ego* according to the proper law of development. For this purpose he seemed to accomplish those magnificent achievements in philosophy and criticism which filled the thinking world with his fame; for this purpose it would also seem that he turned his attention to social science and elaborated those schemes for the benefit of his fellow-men which have gained the profound regard of statesmen and publicists in all enlightened lands. It was the constant consciousness of self in his work, combined with an equally constant consciousness of the character and relations of his

work, that made it of such infinite value to himself, and distinguished it, in an important respect, from that of the great naturalist.

Self-forgetfulness, simplicity, and impulsiveness were the characteristics of the work of Agassiz. He studied embryology because it was congenial; he made geological and zoological excursions because he felt so impelled. No ulterior end seemed to present itself, in view of which he should make those immense acquirements of scientific truth which are the admiration of the world. He seemed to be the embodiment of an unconscious, impersonal force—a force seeking expression through the organism of him, and rendering him the fortunate instrument of discovering new and important fields in the domain of a grand science. He lacked that poise and self-consciousness which characterized the great philosopher. Mill was the more personal, Agassiz the more impersonal, in thought and life. And yet the personality of Mill was of such a character that it comprehended the impersonal. The type of mind which Mill possessed was of a later development than that of Agassiz. An habitual self-consciousness is, as every psychologist has observed, the latest product of psychical evolution.

It is not for us to decide whether an habitual self-consciousness is the *highest* product in mental development, but it is certainly the last in the order of the development of our mental states. Men of genius, men of one idea, enthusiasts, never possess it; and, indeed, few great men of any type or age possess it. But this habitual self-consciousness was in Mill the concomitant of a strong self-hood—the concomitant of an habitual self-reliance—and this was revealed most remarkably in his attitude toward nature; he early learned to reject the common notions of the perfection of things and the constant regulation of nature and humanity by an overruling and supreme intelligence; he seemed to believe with the German optician, who declared that it would be a poor optician who could not make a better eye than nature had made, with like materials and advantages. In his Autobiography, p. 39, he

tells us that his father "found it impossible to believe that a world so full of evil was the work of an Author combining infinite power with perfect goodness and righteousness." And he states this belief with apparent approval. Again, in the same work, p. 186, in speaking of his subsequent wife, he says:

"In her complete emancipation from every kind of superstition (including that which attributes a pretended perfection to the order of nature and the universe) * * * resulted not from the hard intellect, but from strength of noble and elevated feeling * * *"

In all such respects Mill was in complete accord with his father and his wife. Mind and matter were subject to law, but a supplement to those laws could be made, and it was the province of man to work out the improvement. This self-reliance is exhibited in all the life and teachings of Mill. He stood in the midst of the teeming, throbbing, immense universe, unawed, confident, bold, master of the situation, and author of his own advancement and salvation. He sought to inspire his fellows with equal independence and courage. He inculcated the utmost freedom in thought and life, but he still believed in a freedom allied with order and governed by law—law inaugurated and devised by the best intellect in the state.* But Mill was never afraid in the dark; he always carried his lantern, reason, and never imagined hobgoblins or dangers. Obscurity never terrified him either in fact or in philosophy, for he possessed a firm hold upon the known, the

* It is a remarkable fact—but not unusual with men of transcendent ability—that with all his faith in himself, Mill had not much faith in mankind. In his work "On Liberty," he regards individuality as one of the elements of well-being. "In this age the mere example of non-conformity, the mere refusal to bend the knee to custom, is itself a service. Precisely because the tyranny of opinion is such as to make eccentricity a reproach it is desirable, in order to break through that tyranny, that people should be eccentric. Eccentricity has always abounded when and where strength of character has abounded."—Id. p. 129. But "the general average of mankind are not only moderate in intellect but also moderate in inclinations; they have no tastes or wishes strong enough to incline them to do anything unusual, and they consequently do not understand those who have, and class all such with the wild and intemperate whom they are accustomed to look down upon."—Id. p. 183.

positive, and the definite. For the indefinite, the infinite, the unknowable he had little or no interest and no fear, believing that whatever could be could not be contrary to experience. This self-reliance and individuality, combined with his extraordinary attainments and analytical power, made him the greatest critic of his time, for criticism involves both self-confidence and knowledge.

But Agassiz was not self-reliant or independent in the sense in which Mill was. Agassiz was both self-reliant and independent in the sense of being able and willing to do what he attempted without assistance, but not in the broader and more complex sense of being a perfect conscious master of his internal as well as external activities—not in the sense of not needing sympathy and emotional support. Agassiz looked for sympathy and support everywhere, in humanity and in nature. He found this in humanity; he thought he found it in nature. In his first great work on Fossil Fishes he says :

“An invisible thread in all ages runs through this immense diversity, exhibiting, as a general result, the fact that there is a continual progress in development ending in man, the four classes of vertebrates presenting the intermediate step, and the invertebrates the constant accessory accompaniment. Have we not here the manifestation of a mind as powerful as prolific? the acts of an intelligence as sublime as provident? the works of goodness as infinite as wise? the most palpable demonstration of the existence of a personal God, author of all things, ruler of the universe, and dispenser of all good? This, at least, is what I read in the works of creation.”

Unlike Mill, he found perfection, supreme intelligence, harmony, everywhere. He said, if this is not beauty and truth and wisdom, where can it be found? He seemed not to think of his own mind as a well-spring of inspiration, or guiding intelligence, or sublime wisdom. He leaned upon the *non-Ego*, and drank in joy and knowledge from the universe. The attitude of Agassiz toward nature was therefore essentially different from that of Mill. The inquiring naturalist sought not only scientific truth but being and personality, and he clothed nature with even a poetic garb. He believed

in the presence of a conscious mind ever at work in nature, and with this mind he seems to have held converse—upon it he seemed to rely. He wanted to be taught by nature, not to control it; he wanted to find out the ways of nature, not to improve upon them.

How much these two men were influenced by their disposition in respect to self-reliance is illustrated in their religious attitude. Religion, being subjective, depends upon the temperament and education of the subject. Mill, finding sufficient in himself and in the attainable, was both by education and by nature prepared to reject all forms of religion, and not to trouble himself with the great unverifiable cause or support of the universe. He, therefore, had no deep religious sentiments, was not religiously inclined, and did not encumber himself, as he would express it, with either an uncertain theology or a useless religious creed. His position was rather a negative one, and not that of dogmatic atheism. On the contrary, Agassiz, with less self-reliance and with a religious parentage, was naturally religious. He was constantly and unconsciously seeking for something in the environment to rely upon. Being sympathetic, he was ever automatically peopling the external world with beings with which he could be in sympathy, and nature was not simply a succession of phenomena, but real and substantial, and personal and intelligent, and even conscious. Agassiz was naturally a great preacher; he infused so much of the religious and poetic sentiment into everything he did that it became apparent to all. As when he inaugurated the school at Penikese, it is reported that, at a point in the exercises, he said, "We have need of help here; let us pray," and they all engaged in silent prayer. It was the religious sentiment that was manifested in all of Agassiz's attacks upon the Evolution theory, because it seemed to him to divest nature of personality, mind, and consciousness, and place it in the light of an automaton, an unconscious impersonal force.*

* That the Evolution theory *is not* atheistic we have the testimony of the greatest exponent of the theory, Herbert Spencer, who states that Mind

But as Mill was irreligious and Agassiz religious by temperament and education, so the former was an experientialist, and the latter a transcendentalist, by temperament and education. Mill said, when we see matter and organism we see all that we care to know. But Agassiz said, when we see matter, and nature, and organism, we are impressed that there is, within, a spirit which originates, guides, and sustains all—a spirit which we can know, and feel, and possess.

And this brings us to the consideration of the speculative tendencies of these two great minds. Notwithstanding the fact that Mill was largely occupied in the domain of speculative philosophy, he was not naturally speculative. Of course, he became familiar with all theories of any account, but he

and Matter adhere in an Ultimate Reality which is God, implying a God which is the sum of all personalities and impersonalities, and greater than either the conscious or the unconscious. In a collection of his Essays entitled "Recent Discussions in Science, &c.," he says: "I conceive, on the other hand, that the object of religious sentiment will ever continue to be that which it has ever been—the unknown source of things. * * * * Having, in the course of evolution, come to have for its object of contemplation the Infinite Unknowable, the religious sentiment can never again (unless by retrogression) take a finite knowable, like humanity, for its object of contemplation." "Reasons for dissenting from Comte," id. p. 129. In commenting upon "Mr. Martineau on Evolution," he says: "Mr. Martineau tacitly represents them" (the Evolutionists) "as believing that when everything has been interpreted, in terms of matter and motion, nothing remains to be explained. This, however, is by no means the fact. The doctrine of Evolution, under its purely scientific form, does not involve Materialism, though its opponents persistently represent it as doing so." Id. p. 347. "I fail to perceive humility in the belief that the human mind is able to comprehend that which is behind appearances; and I do not see how piety is especially exemplified in the assertion that the universe contains no mode of existence higher in nature than that which is present to us in consciousness. * * the religious sentiment may find its highest sphere in the belief that the Ultimate Power is no more representable in terms of human consciousness than human consciousness is representable in terms of a plant's functions." Id. p. 349. Many of the eminent opponents of the doctrine of Evolution admit that it is not atheistic. The Duke of Argyll says: "It is not in itself inconsistent with the Theistic argument, or with belief in the ultimate agency and directing power of a creative mind." "Primeval Man," p. 42. "So far, therefore, as belief in a Personal Creator is concerned, the difficulties in the way of accepting this hypothesis are not theological." Id. p. 44.

acquired them as an addition to his knowledge or for the purposes of criticism. His "System of Logic" is mainly a discussion of the laws of thought and the foundations of philosophy; while his other philosophic works take the form of criticisms on systems from which he dissents. He was not an inventor, but an expounder and critic, of hypotheses. And yet such was his regard for speculative thought in any well-presented form, that he at one time offered to render pecuniary aid to an illustrious contemporary (with whom he disagreed on many points) to bring out a new system of philosophy. Agassiz was, however, naturally speculative, imaginative, and unconsciously traced effect to cause. His position as a discoverer was kindred to that of the speculator; and his "Glacial Theory," his "Method of Creation," and his paper on "Evolution and Permanence of Type," indicate the speculative tendency of his mind. But the psychological or speculative element in science is not unimportant or unusual. A kind and degree of speculation is as necessary to science as it is to philosophy. Science is that in which discovery leads and speculation follows. The greatest scientists have supplemented their scientific discoveries by speculative treatises, setting forth or combatting theories; and such is the universal respect for speculation, that even those whose scientific attainments are the most extensive and profound look upon their speculative efforts with pre-eminent admiration—considering their theories the greatest works of their lives, and their choicest treasures. Speculation is to science and thought what poetry is to literature and life—the very fountain and inspiration, bloom and fruitage. But the purely scientific or scientific emotional mind is not well adapted to speculation. There is not sufficient comprehensiveness or complexity in a mind of this caste to make its philosophic reasonings of much value. Tried by the highest and severest tests, Agassiz's mind was not adapted to speculation. And we say this after due consideration of the popular estimate of Agassiz, an estimate which accords him equal ability as a scientist and a thinker. But the popular estimate of the great naturalist is founded

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the proposition that an individual who is great in one
is great in all, a proposition which is as injurious as
untrue. The estimation in which Agassiz was held by
speculative scientists of his time—an estimate, in one re-
spect, quite the reverse of the popular estimate, is not to be
taken as the true one without further examination. Specula-
tive scientists decried Agassiz because he did not accept the
theory of Evolution in its fullness. But an individual's ability
is not to be judged by his acceptance or rejection of any par-
ticular theory. Newton advocated the Corpuscular Theory of
light, and strenuously opposed the Undulatory Theory. But
now the wave-theory is universally admitted, and the emis-
sion-theory has few or no adherents. So it may happen that
in the coming time the theory of Agassiz and Von Baer, as to
the origin of species, may have few or no adherents, while
the theories of Haeckel and Darwin will be universally ad-
mitted; but Agassiz and Von Baer will not, on that account,
be regarded as lacking in speculative ability. It is not the
fact of the acceptance or rejection of a particular hypothesis
which determines the ability of the individual; it is the manner
of the acceptance or rejection. Agassiz did not possess the
faculty of complex generalization. He was, of course, an
adept at simple generalization and classification within his
particular science. But outside of natural science he was in-
competent, being unable to justly compare his own with other
sciences, and to distinguish the true difference between
physical and psychical facts. He constructed an admirable
glacial theory, which required only the generalization of
physical facts of the same or like orders. But when he came
to reason about the evolution theory (in opposition to what
he gave much of his later energies), which required a
comparison and generalization of facts of extensive and
orders, he failed to exhibit much logical ability. His
argument was sound enough—the argument of “not p
—the argument which is ordinarily used, that species
varied essentially within our geologic or historic knowledge
and that, therefore, we had no right to infer that they
had varied.

In one of his lectures on the "Method of Creation," he expresses his belief, "that all these correspondences between the different aspects of animal life are the manifestations of mind acting consciously with intention toward one object from beginning to end. This view" (he says) "is in accordance with the working of our minds; it is an instinctive recognition of a mental power with which our own is akin, manifesting itself in nature. For this reason more than any other, perhaps, do I hold that this world of ours is not the result of the action of unconscious organic forces, but the work of an intelligent, conscious power." Again, in his paper on "Evolution and Permanence of Type," he says:

"The most advanced Darwinians seem reluctant to acknowledge the intervention of an intellectual power in the diversity which obtains in nature, under the plea that such an admission implies distinct creative acts for every species. What of it, if it were true? Have those who object to repeated acts of creation ever considered that no progress can be made in knowledge without repeated acts of thinking? And what are thoughts but specific acts of the mind? Why should it then be unscientific to infer that the facts of nature are the result of a similar process, since there is no evidence of any other cause?"

This argument expressed in brief is that, as the human mind thinks in special acts of thought, so the all-powerful mind in nature thinks in special acts of creation. A very illogical conclusion, unless we admit the similarity between a thought of the human mind and an act of creation, or that an act of the thing created is co-ordinate with an act of the Creator. The inability of Agassiz to carry on critical or speculative processes with anything more than mediocre success was combined with another fault or misfortune—that he never seemed to know what his critics said of him. It is not within the province of this article to discuss at length the speculative ability of Agassiz, but it is believed sufficient has been said to show the demonstrability of the proposition that, however highly the researches of Agassiz are to be esteemed, his argumentation and speculation are not of great value. But his philosophic contemporary, Mill, was truly in his ele-

ment when engaged in discursive thought. This was universally recognized. So eminent and extraordinary was his discursive ability that many of his contemporaries regretted that he did not elaborate a complete and continuous system of philosophy, instead of spending so much time in the critical analysis of systems not his own. The secret of his course in this regard was doubtless what has been before stated, that he was not naturally speculatively inclined, although abundantly competent to construct an entire system of speculative philosophy.

Having considered the psychological characters of Mill and Agassiz, we pass to a comparative review of their works and the relation which they sustained to the world. And it may be well to observe here, that both of these illustrious men were exceedingly industrious. They were correspondingly prolific in their works. Men of genius are commonly said to be indolent; but if they ever become great they work. Great men, whether men of genius or not, are always busy men.

From Socrates, Plato, and Aristotle, to Comte, Mill, and Spencer; from Homer, Virgil, and Tacitus, to Milton, Shakespeare, and Scott; from Michael Angelo to Dr. Lesseps; from Pythagoras to Emerson and Carlyle; from Newton and Copernicus to Tyndall and Agassiz; from Solon and Lycurgus to Grotius, Mansfield, and Austin; from Handel and Mozart to Rubinstein and Liszt, great men have been great workers. It is the natural and only way to realize great possibilities. And it is interesting to contemplate the long, invisible, unconscious succession of great thoughts and deeds in humanity which culminated in bringing to life, consciousness, and personality in the same period two such individuals as Mill and Agassiz. Far different forces were at work—forces which demonstrate the magnificent evolving power and diversity of possibilities that are in humanity—forces which produce results that make the world proud of itself, and grandly expectant for the future.

Mill and Agassiz were unlike in respect to the departments in which they labored. The former was occupied with

the observation of the phenomena of mind and society ; the latter with the phenomena of nature. They delved on opposite sides of the realm of investigation ; they were at opposite poles of the globe of thought. Mill was a metaphysician, Agassiz a naturalist ; the former was concerned in the psychological condition of the world, the latter in the physical condition. An examination of the comparative intrinsic merits of their works* reveals the fact that Mill's works were profound, logical, highly reasoned, elegant, and strong. Agassiz's works were descriptive, fresh, warm, sometimes even romantic ; but the field in which Agassiz was so enthusiastic an investigator was comparatively new, and the discoveries which he made and assisted in making were so novel and striking that the description of them seemed like a romance, even without any embellishment. The fossils, the rocks, the bones which came to light at the touch of his magic wand made him appear in the light of the discoverer of a new natural world.

In Agassiz's department all appeals to the eye, to the

* The published works of Mill are as follows : "A System of Logic," "Political Economy," "Considerations on Representative Government," "On Liberty ;" "The Subjection of Women," "Comte's Positive Philosophy," "Examination of Sir William Hamilton's Philosophy," the "Autobiography," and four volumes of Dissertations and Discussions on widely diverse subjects, viz. : "The Contest in America," "The Right and Wrong of State Interference with Corporation and Church Property," "The Currency Juggle," "A Few Observations of the French Revolution," "Thoughts on Poetry and its Varieties," "Professor Sedgwick's Discourse on the Studies of the University of Cambridge," "Civilization," "Aphorisms: A Fragment," "Armand Carrel," "Writings of Alfred De Vigny," "Bentham," "Coleridge," "M. De Tocqueville on Democracy in America," "Michelet's History of France," "The Claims of Labor," "Early Grecian History and Legend," "Dr. Whewell on Moral Philosophy," "The Slave Power," "Utilitarianism," "Thoughts on Parliamentary Reform," "Bain's Psychology," "Austin on Jurisprudence," "Plato," "Inaugural Address," at University, &c.

The published works of Agassiz are not so numerous ; they consist of the following : "Fossil Fishes," "Nomenclator Zoologicus," "Bibliotheca Zoologiæ et Geologiæ," "Etudes sur les Glaciers," "Systeme Glaciere," "The Method of Creation," Lectures : "Evolution and Permanence of Type," Essays ; "A Journey in Brazil." &c.

curiosity, to the imagination. The utility of the discovery is of secondary importance. A fascination seizes the beholder as well as the worker, and both mind and body are conducted with delight through the labyrinth of nature. And Agassiz possessed a marvellous power in making his way through the geological and zoological mazes which met him at every step. He possessed great penetration, memory, clearness, and quickness, and had a rare combination of ingenuity and persistency. These qualities, combined with his love for natural science, were the foundation of his magnificent success. But while newness and freshness characterized the domain in which Agassiz labored, there was a lack of these in Mill's domain. Not that the human mind and society are not constantly new in some degree. But all that was fundamental and elementary had been discussed and investigated long before Mill came to the study of psychology and sociology. All that he could hope to do was to carry the investigation a little further—at least, if the study of these philosophic sciences were to be conducted upon the old principles. Mill did not contribute much that was new to mental or social science. He became conversant with all that went before him, and then expressed his own critical views of its value with some suggestions and modifications. Mill is not to be esteemed according to the originality of his work; while Agassiz may be so esteemed without injustice. Mill is to be estimated rather according to the position which he occupied in the life and thought of the world, as his real work was not visible, but invisible. The kingdom in which Agassiz reigned was the visible world, and the results of his administration are patent to the senses. No recondite mental process is required to appreciate the work of the naturalist; Agassiz is, therefore, to be estimated fairly by the visible effects of his life-work. The museum of Comparative Anatomy, at Cambridge, Massachusetts, is one of his greatest monuments, for it is a fitting representative of his labor.

But open a book written by Mill, and if you judge by what you see with the natural eye (and we make the sugges-

tion simply for the purposes of comparison), you find nothing to indicate superiority or power. But transfer the printed words to the mind, and, on reflection, you discover the great psychical influences which flow from the mind of the great thinker upon the human race.

The relations which Mill and Agassiz sustained to the common consciousness of their time were quite different. It will be observed that the common consciousness of the nineteenth century has not been so largely occupied with the investigation of psychical truth as of physical truth. There are fewer metaphysicians than scientists. During the lives of Mill and Agassiz the scientific period of the world had fully begun; not only had professional scientists begun to be numerous, but there had been aroused and rendered active a universal spirit of scientific inquiry; while philosophy, especially as conducted according to the old methods, was quiescent. Nevertheless Mill exercised a vast contemporary influence. Humanity is not satisfied at any time with the simple possession of facts. The human mind is so constituted that it must philosophize upon the facts which come to its knowledge. The position of a philosopher or a critic is always assured as among the very highest. The existence of criticism and philosophy in humanity is as essential and inevitable as the existence of observation and science. The former supplement the latter. Mill was the representative of all that element in the human mind which had begun to be dissatisfied with the prevailing systems of philosophy and education, and with a servile obedience to "authority." He voiced a large common consciousness when he inveighed against the extravagances of philosophy and called it back to the real and experimental. The hard, every-day facts of life were those upon which he based his views, and he thus commended himself to the judgment of a large portion of the thinking community. He was the head and front of all that large and increasing class of individuals who do not accept all they are told without limitation, and who wait for extended information before pronouncing judgment. His political and educational philosophy were usually conservative, and com-

manded respect among scholars and statesmen. But the place of Mill in the thought of his time was rivalled by that of Agassiz in the science of his time. With the exception of Darwin no scientist was better known or more discussed than Agassiz. He met a large part of that common consciousness which was awaiting the discovery of natural truth. He was in complete harmony with the most prominent aspirations of the age. He had assistance, sympathy, appreciation everywhere. No difficulties were cast in his path. Unlike the great pioneers of science who endured martyrdom for its sake, Agassiz found a humanity fond of science and scientific men, so that the flowers of sympathy strewn his pathway, and everything which he asked for was furnished with unparalleled alacrity. Other men have been the favored of kings and princes, but he was the favored of the people. The heartiness and adequateness of the support which Agassiz received can not be attributed altogether to his personal power. He certainly occupied a favorable position in the common consciousness of his time. And this is why few men have ever been so thoroughly appreciated in their own time as Agassiz. He was a man absolutely in keeping with his time.

The difference between Mill and Agassiz in respect to their relation to their time may be thus expressed: Mill was in keeping with the special consciousness; Agassiz with the common consciousness; the former was the outcome and organ of the philosophic criticism, the latter of the scientific spirit, of the age. With respect to the past and future, Mill and Agassiz occupy widely different stand-points. Mill marked an epoch in philosophic thought, and so did Agassiz mark an epoch in scientific investigation, but here the similarity ends. Mill closed a long period of philosophic thought, a period which beheld Orientalism, transcendentalism, idealism, Plato, the Mystics, Fichte, Kant and Hamilton on the one side of a great philosophic question, and materialism, experientialism, positivism, Aristotle, the schoolmen, Des Cartes and Comte on the other side. Mill was, in fact, an experientialist; but philosophy on the basis of a pure examination of the

human mind, philosophy either inductive or deductive, alone, had reached its culmination ; and there has dawned a new era in philosophy—the era of synthetic or scientific philosophy. Mill found fault with transcendentalism because it affirmed too much, with positivism because it denied too much. He said, Your system is not true : it is only the product of your mind, the development of your own idea ; wait for more facts, do not pronounce too quickly ; the wise man does not decide nor conjecture unless he is compelled—he simply discusses. Thus was Mill the balance-wheel of the philosophic thought of the age.

Agassiz marks the beginning of an epoch—the epoch of natural science. He was not, strictly speaking, the first, but among the first. What Von Baer, Cuvier and Humboldt had suggested he fully inaugurated. He stood among the pioneers of zoological researches, the author of *Ichthyology* and the founder of the Glacial system. He belongs, therefore, to the class of discoverers, founders, prophets. Thus he represents not only the advancing spirit of the present, but much of the future. Mill, on the contrary, belongs neither to the class of prophets nor redeemers, discoverers nor pioneers. He gathered up in himself the possessions of those who went before him, acquired the results of all science and all thought, and in so far represented the past. He belonged to the harvest-time of a vast period of philosophic thought. He garnered in the fruitage, and became the storehouse of an immense amount of learning, so when he discussed the relative merits of the classics and the sciences in education, in his inaugural address at St. Andrew's, he advocated the study of—not one, but both. He was one of the most learned men of his time and country ; the sage of the period, the embodiment of the knowledge and culture of the ages.

From the brief comparative review of the character and position of Mill and Agassiz it will appear that, in the death of these men, the world has lost two of its chief representatives, and when we cast about we find none to fill their place. It must be that their particular work is accomplished—the

work of harvesting the thought of the past and sowing the science of the future. Others will doubtless do as well in the new work and new era. But the nineteenth century has no greater merit than that of producing Mill, the Thinker, and Agassiz, the Naturalist.

ART. III.—1. *Posthumous Fame—Oxford Prize Essays.* MARSH, Oxford.

2. *Philosophy, Universal History.* BUNSEN.

3. *Geschichte der Philosophie (History of Philosophy.)* RITTER, Berlin.

4. *Lives and Maxims of the Illustrious Philosophers.* (Περὶ βίωσιν καὶ δογμαμάτων τῶν ἐν φιλοσοφίᾳ εὐδοκίμησάντων.) By DIOGENES LAERTES.

By immortality, we mean, in this article, not the future condition of man, but the name for good or evil, which he transmits to future ages. We shall try to show what an accidental bubble such reputation too often is. The vanity and emptiness of human greatness, as a final test of real worth, has been a favorite theme with philosophers of old. In the ages in which they lived, so uniform and so universally accepted were their conclusions on this subject, that its modern demonstration might seem useless, were it not for the wide-spread and increasing prevalence of the opposite opinion. This opinion, so truly characteristic of our selfish and materialistic age, is, that genius is irrepressible, and that greatness and ability, under any disadvantages, are certain in the end to make their mark. This opinion is also characteristic of our age, in its arrogant assumption, that all the genius and ability we see ~~is~~ all that exists, and that if there were any more it would surely be brought to light. We are, in short, accustomed to ~~overrate~~

our knowledge, by complacently ignoring all that is unknown, as though it had no existence, and this is the greatest obstacle a new truth or a newly discovered fact encounters at the present day.

It may be assumed as an axiom that error of every description is prejudicial to the best interests of our race. Later on we propose to show the baneful influence of the above opinion on our social life; an influence which, if not arrested in season, may yet prove fatal to those very interests from which the error was originally derived. We may here remark that every age has advantages and errors characteristic of and peculiar to itself. For example, while the ideal and poetic age of Grecian philosophy intuitively leaped to the conception of vital truths, the wonder and admiration of future ages, it was replete with error in the conception and understanding of physical phenomena. In our time, while we have reached an exactness never before known in our knowledge of the material world, and are still progressing in that direction, we seem to be retrograding in a corresponding degree in our knowledge of mental and moral phenomena.

As a rule, men are now absorbed in their own special interests to the exclusion or sacrifice of the common weal, and, in the short-sighted grasping of the individual present, are wholly indifferent to the collective future. "*Dulce et decorum est pro patria mori*" was not a mere idle sentimentality of the ancients, as the mighty shades of Codrus, Leonidas, Themistocles, Decius, Emilius Paulus, with the unknown dead of Thermopylæ and the self-devoted Roman senators massacred by the Gauls, abundantly attest. "Swearing to one's own hurt and changing not," was no idle abstraction, but a stern reality with Lycurgus, Aristides, Socrates, Brutus, Regulus, and hosts of others. It must be remembered, too, that these men had no supernatural revelation to guide them in the comprehension and practice of these grand ethics, yet their great spirits grasped the truth with the force of a thorough conviction, so clear was their perception that nobility of soul surpassed in value every earthly boon, and that stainless honor was a

greater blessing than a tarnished life. Still men such as these, untainted with modern selfishness, clearly realized the truth, that an honored immortality of their names was in their case a mere accident, and that qualities equal to the finest they illustrated had either not been developed for lack of opportunity, or had, after performance, been swept away in the Lethean flood of oblivion.

Nature is affluent in her provision for all emergencies. Though the greater part of the pollen of flowers be swept away by the winds of heaven, enough remains to fulfil the purposes of their creation and reproduction. Though many a flower fades unseen, and many a fruit runs to seed unused, enough remains for the delight and sustenance of man. Though many a giant tree spreads its magnificent branches unseen in the pathless forest, we must not hence conclude that it is created in vain. When such are the facts in regard to productions, needing no development but what is common to all, namely, light, air, water, etc., who shall assert the contrary in the case of mental growth or development, where extraordinary conjunctures of circumstances in extraordinary times, stimulate and develop with more than hot house growth alike the grandest and basest passions of our nature. We may here observe that there are various kinds of immortality among men. There may be an immortality of glory, an immortality of shame; there may even be an immortality of insignificance or folly. Some three thousand years ago or more, a ravenous eagle swooped down from the Idean mountains in Asia Minor, caught in its cruel talons a lovely boy, the royal heir of a petty kingdom in that region, and disappeared with its prey. The afflicted monarch was assured by his priests and courtiers that his beautiful babe was borne upward to Jupiter, the king of the gods, who, being fascinated by his beauty, sent his messenger to convey him to the skies, that he might dwell there forever as the cup-bearer of the immortals, and this infant's name lives in history forever.*

* Virg., lib. i; Homer, Hesiod, et alii.

An ancient queen, with tresses of unusual beauty, dedicated them to her god in case her husband returned safe from an expedition, and duly performed her vow. Soon after, they were, through the carelessness of the priests, either lost or stolen. To appease the wrath of the king, the astronomers declared that the messenger of the gods stole them from the temple and bore them to the skies, and from this incident the name of that queen has become embalmed in a starry constellation forever.*

A Roman embassy, sent to the city of Tarentum in Magna Græcia, was grossly insulted by the rabble, and a wretched, drunken buffoon smeared the toga of one of the ambassadors with filth. Amid the jeers of the mob, the Roman noble, extending his toga and shaking it at them, declared that the vile insult should be washed out in their blood. The beastly action of this miserable man, whose name, we believe, by one of the mere chances of history is not preserved, led to some of the most momentous consequences in the history of the human race, including three protracted wars between the two greatest powers of antiquity; and the blood that washed that toga flowed for over 130 years in a prodigal and almost continuous current.†

The incendiary who destroyed the temple at Ephesus for the sole purpose of engraving his name on the tablets of time succeeded in his design. The presumptuous philosopher who flung himself into the crater of Etna, hoping to be regarded by his deluded followers as a god who disappeared from the eyes of men, though he failed in his real purpose, has yet secured an immortality of folly and fraud. Even the caprice of a tyrant for a brief hour at a banquet has immortalized a man whose name would otherwise have been consigned forever to oblivion.‡

If necessary, we might multiply incidents of this kind, more than enough to transcend the bounds of this article, or

* Rollin, Plutarch.

† Liv., b. xii; Synop. Keightley's Rome

‡ Life of Dionysius, Plut. et alii.

even of a bulky volume, but the above are quite sufficient. Tyrants like Nero or Domitian, imbeciles like Sardanapalus, besides hosts of others who have been immortalized by the mere eminence of station, without any merit of their own, illustrate, even to a very moderate intelligence, the emptiness of human greatness, so far as they are concerned. In many cases their very unfitness has signalized their immortality by the terrible disasters to themselves or others, occasioned by their weakness or wickedness. It is a fearful consideration that persons such as these should have power, by virtue of their station, to play their fantastic tricks. It is mysterious and melancholy to reflect that, while the weakest of us have an almost boundless capacity for mischief and evil, so few of us have a capacity, and that limited at best, for promoting the welfare of others. While a semi-idiot may destroy in a few brief hours the labor of years and the pride and glory of centuries, the most gifted can promote the welfare and progress of our race only by the most laborious or the most painful efforts. So much the more ought we to honor and cherish the memory of those grand heroic spirits who have left their impress for good indelibly stamped on the tablets of time.

So far we have only touched upon part of our subject, for it is obvious that the mere fact of the attainment of immortality by the weak, the wicked, or the foolish, does not disprove the assertion that genius will always make its mark and leave its impress on its age. True it is we all exert an influence more or less, and it may not be the less efficacious because it is silent. But this is not meant by the saying in question, the idea being that genius and ability will always be signally and conspicuously manifest in the eyes of men. Nevertheless, this opinion is as erroneous as the other, and has wrought a great mischief in the popular conscience. For, by a natural confusion of ideas, many think that because all men of ability achieve success, all who achieve success are therefore men of ability and deserving of commendation. The result is seen in a deplorable perversion of the public conscience; success in life being regarded as the only proper

end of man. The consequence is that all means, however debasing, however unscrupulous, however searing to the conscience and withering to the moral growth of the individual, are frequently resorted to in the mad race for what is called success, and when the goal is attained the successful man too often receives the applause and respect properly belonging to the man of worth, principle, and conscience. It is true that a certain amount of intellectual force and energy is usually exerted in attaining this goal. Yet, did they depend on this alone, they would never emerge from the obscurity in which many abler and better men lie hid. Their notoriety is chiefly due to qualities far more ignoble, namely, loud self-assertion, a certain pachydermous insensibility to rebuff and insults, which promotes persistence of purpose, and a peculiar impudence, vulgarly called "cheek," and for which we know no better term. True genius and ability are cast in a far different mould, being usually modest, retiring, and only brought out when circumstances imperatively call for their exertion. True worth and genius the poet aptly compares to the modest violet, which

" Needs to be sought, nor with obtrusive air
Demands those honors Nature bade it share."

It is far more at home with Cincinnatus at the plow, than with the demagogue Cleon at the rostrum.

When men of this stamp, however, are by force of circumstances brought forth to public view, the heaven-given nobility of their nature is instinctively recognized by all, and, almost without effort, they command by force of their innate qualities a meed of respect and admiration altogether unattainable by men who are successful through accident or the display of more ignoble qualities. In all great crises of history we find that men for the crisis invariably appeared, and in most instances we find their appearance on the stage due to accident alone. The hero who stayed the tide of Oriental conquest, practically saying to the Persian invader, "Thus far shalt thou come and no farther," was a petty governor under the Persian

king, and even served in his campaign against Scythia.* Subsequently obliged to flee for his life, he became a citizen of Athens, and in the glorious battle of Marathon won for himself and his fellow-citizens an undying fame. Yet, if his disaffection to the eastern despot had remained undiscovered, he would probably have lived on in his government in ignoble ease, while another name, now buried in obscurity, might have shone as a star of the first magnitude. A man who meekly bore the murder of his father and the confiscation of his property, and who to save his life passed for a fool, roused by the outrage and death of the chaste Lucretia, exhibited himself as a destroyer of tyranny and a very incarnation of freedom. From that hour he seemed to become transfigured in heart and soul; his very name of fool (Brutus)† became a beacon and warning to tyrants of all ages, and after displaying undaunted heroism and other qualities of the very highest order, he at length perished gloriously on the battle-field, fighting for the freedom he had gained for his native land. Yet, had no such crisis occurred, who can say that this Brutus would not have fretted away the remainder of his life, purchasing an ignoble existence at the expense of honor and self-respect, entirely unappreciated and himself unconscious of the grand qualities he possessed. So far can the noblest natures suffer and stoop under the pressure of an iron necessity.

The names of Harmodius and Aristogeiton have become immortal through their avenging an outrage perpetrated against them by the tyrant of Athens, and though they perished in the act their names at once became enviably conspicuous in the records of fame. Till then lost in the countless masses of obscure humanity, in one brief hour they became synonyms of freedom to the human race for ever.‡ Yet, if they had not personally felt the despot's iron heel, who can doubt that they would not be, like the common mass of humanity, forgotten and unknown? The foundation of the Parthian empire was due to a similar cause. An infamous outrage perpetrated by

* Herod lib. iv.

† Liv. b. i, 56-59, et alii.

‡ Grote.

the Greek governor caused his assassination by a brother's hand, and that brother's name thenceforth became indelibly stamped on the world's history, by the foundation of an empire destined less than two centuries afterwards to bring to a full stop the onward career of the Roman power, till then irrepressible.*

Our readers are doubtless well acquainted with the story of William Tell, who was summoned into fame by the unreasoning tyranny of a governor, who himself became immortalized by his elevated station, and still more by the fantastic tricks of tyranny his station allowed him to perpetrate. The grand self-devotion of Arnold Winkelried, in the same cause, is also a familiar tale. A personal insult offered him by an insolent English officer of rank, after the subjugation of his native land, and the condign punishment he inflicted for the same, first spurred on Sir William Wallace to his great achievements, and showed his mighty spirit the pathway to fame. Otherwise his modest nature would probably have induced him to live and die in the quiet seclusion of a country gentleman's life. The histories of Cortez, Pizarro, and even of the great Columbus himself, illustrated in the same manner the curious accidents of fame. Had there been no Isabella of Castile, the latter would probably have sunk beneath his difficulties. Had the mutineers secretly thrown him overboard, as they intended to do, he would have been heard of no more, or had his course been slightly different, he would, according to the promise given his crew, have returned to Spain unsuccessful and disgraced; and seven years later the accidental discovery of Brazil† by the Portuguese Admiral, Cabral, would have given him all the honor and renown that a greater man had failed to win. Were the development of genius independent of outward circumstances, we would not see it coming to light so uniformly in favorable conjunctures, or in critical periods that try the souls of men. Mental and moral qualities, like physical productions, need the richest soil and

* Rollin.

† Herrera, Prescott.

the highest cultivation for their finest development. Genius of the highest kind may, at this moment, lurk undeveloped in the remote islands of the sea, in arid sandy wastes or dense forest jungles, but, lacking development, is as barren of result as seed sown on a rock, corn planted in a desert, or acorns flung on a mountain of ice. The slightest layer of soil on a rock may cause vegetation to come forth; the unexpected gushing of a spring may spread fertility in a desert, and a minute deposit, even on an ice mountain, may diversify its appearance with a bright, mossy verdure. So likewise, despite the unfavorable circumstances of savage life, bright sparkles of genius are occasionally enabled to appear.

In our own history the names of Pontiac, Tecumseh, and Osceola clearly prove, that in the Indian character, cropping up above the disadvantages of a savage life, dwelt possibilities of the highest and noblest genius. The recent exploits of the Modoc chief, tarnished as they have been, we were about to say, by savage characteristics, but more properly by characteristics taught through intercourse with the worst specimens of the white race, indicate what such a man might have become under happier auspices. Yet, in these cases, it is easy to see, that to the accident of circumstances they, too, owe their fame. Another consideration presents itself in illustration of the same truth. Were genius irrepressible, and certain to break forth through all obstacles, like the butterfly from the chrysalis, it would make its appearance at a definite time. Yet nothing is more certain, than, that while greatness in some is developed at a very early age, in others it is unknown and unsuspected till middle life or even old age has set in. While Alexander the Great, William Pitt, and Lord Byron attained to the pinnacle of fame when little over twenty, and the unfortunate Chatterton perished at a still earlier period, Oliver Cromwell, to whom, perhaps above all, England owes her present liberties, was considerably over forty ere he emerged from obscurity; and our own George Washington was about the same age ere he was summoned by the call of his country to come out on the stage of history. The discoverer of America was al-

most sixty ere the fruition of his genius made him known to men; and turning to sacred history, we find that the great lawgiver, Moses, was eighty years of age, ere the inspiration of his soul, evoked in his case by an audible voice of God, made him known to the end of time. In our own immediate age, there are perhaps as striking instances of this truth as at any other period. Though the weakness of human prejudices, unable to judge clearly of events so near our time, and stimulated by the rancor excited during our late civil contest and the political events preceding it, renders us unwilling to enlarge on such instances in our own time and country, we must briefly mention two of them. We believe that the name of Abraham Lincoln will go down to the admiration of future ages, and that the military exploits of Robert Lee will signalize his name, till perhaps war itself shall cease to be, and these are excellent cases in point. But still more striking is the instance of the great German strategist, Von Moltke, who, in times of peace, obscurely lived out nearly the entire span of existence allotted by the inspired writer to man. Since the development of genius thus occurs at every stage of human existence, the conclusion is irresistible, that in many instances no opportunity for development is afforded, at least in this stage of existence.

It is possible that in another sphere we may witness the fruition of powers and capacities, undreamed of by the most gifted of the human race in this. In such an existence there may be abundant opportunity and ample scope for that development of our faculties which is denied us here; and it may be the purpose of that Supreme Power, "who makes straight the obliquities of man," to adjust in perfect equity the balance of opportunity for development so unequally poised in this life. While circumstances, as a rule, have brought hidden genius to light, lifting it from obscurity to eminence, it must be admitted that there are exceptional instances of towering and transcendent genius, which become manifest from the earliest period of life, which seem indeed intuitive from birth, and would appear capable of overcoming almost

the greatest difficulties in life's pathway. Yet, even in these cases, accident has more or less to do with their career. The astonishing genius of Newton would probably enable him to attain eminence in any civilized community under the most serious disadvantages, yet a casual incident has identified his name with the great law of the universe forever. Had Newton, too, lived in an age when the pursuit of knowledge would be deemed a sorcery, and the discoverer of a new truth was likely to be rewarded with torture and death, his genius, if not dormant, would certainly be unknown. Two reflections naturally occur here. First, the imperative duty of all governments to throw open freely to their citizens the best possible means of acquiring knowledge and skill, and the best possible opportunities for utilizing and developing such advantages. To this end they should provide such facilities that no genius need be hidden for lack of culture, and no grand qualities remain undeveloped through lack of opportunity. The thorough education of the rising generation in knowledge adapted to each individual, whether artistic, literary, scientific, or—last not least—the practice of *skilled labor* in any required branch, would be a protective tariff to which none could object, and would be a fostering of native industry that would probably render any other protection superfluous. Our second reflection is the significant fact that those great men whose resplendent genius, like the sun enlightening the world, seems able to burst through the thickest clouds of adversity and discouragement, have been in all ages the grand teachers of the human race. They seem as if sent, like the prophets of old, on a divine mission, which must be fulfilled despite all obstacles. Exceptional times may bring out the warrior to preserve or destroy the liberties of his fellows, or may illustrate the subtle policy of the politician and statesman; but the teachers of man are ever needed, their opportunities are ever present. Yet even such men as Confucius, Solon, Plato, and Newton must live in a period where the light of knowledge burns, however feebly. In times of barbaric ignorance their genius would find no place; it would

either be the handmaid of fraud or be entirely repressed ; in any event it would be hidden under a bushel. The flight of the goddess Astrea to the skies, in consequence of the wickedness of man, was no idle fable, but a grand symbolic truth ; and should she again abandon her earthly residence for her heavenly seat, rapine and violence would once more exclusively reign as in that fabled period of old. While the annals of history exhibit to us the names of those few genius-laden barks that, surmounting the breakers of life, have entered the haven of immortality, the shores of time present to us the remains of wrecks equally precious, but who, less fortunate, have succumbed to the storm. The name of the first ocean navigator is wrapped in impenetrable obscurity ; his daring all will admit with the poet :

" Illi robur et aes triplex
Circæ pectus erat qui fragilem truci,
Commisit pelago ratem. " *

The inventor of our wondrous numerical system, one of the greatest inventions ever made, has equally passed away, not leaving the faintest trace. Who can tell the Centaur's name who first broke the steed to the service of man, or the names of those who first subjugated the other animals ? The names of those who invented picture-writing, and the successive improvements, culminating in alphabetic symbols, are all equally unknown. The pioneers of astronomy, geometry and trigonometry, who have left such wondrous monuments of their skill, in Egypt and elsewhere, in the prehistoric period, are all alike obscure. So are the architects of the pyramids, the temples, the labyrinths and the cities, structures whose colossal grandeur has been and ever will be unrivalled. The magnificent cities, once seats of great extinct empires, that now lie buried amid the pathless forests of this continent, or stand in desolate grandeur on the upheaved plateau of Central Asia, mock the traveller who seeks to know something of their founders, legislators, warriors, statesmen, or in short any

* Hor. Od., b. i.

thing about them. While the destroyer of Diana's temple has secured for himself an imperishable name, its great builder's name is wrapped in impenetrable darkness. The name of Vasco de Gama is immortalized by an exploit that the Phœnicians achieved more than twenty centuries previously. Yet, though the fact of this wondrous voyage from the Red Sea to the Mediterranean is now well established, the name of him who performed the astonishing feat without sextant or compass is unknown.*

While Canova and Thorwaldsen are immortalized in their works, the authors of those more wonderful masterpieces of antiquity, the admiration of mankind, have been unable to escape the common lot of obscurity, where we can only say, "There lived a man." Even the doubtful name of the greatest of poets is almost entirely unknown, and he is known to posterity by the nickname of "blindman." When we review the history of the past, note the very few names that out of the innumerable multitude survive the wreck of time, and reflect that, in this scanty band, the weak, the worthless, and the vile often occupy places to the exclusion of the great, the noble, and the good, we feel irresistibly the emptiness and vanity of human fame. We do not even know the *truth* about the names that are handed down. History, as well as legend, abounds in fables. Doubtless, names deserving execration have been held up for the applause of future ages, and noble spirits have been pursued by obloquy beyond the grave. Modern historical research is every day making corrections of this kind. Well did the ancients typify Fame, as an earth-born monster, sister of the giants, that nearly succeeded in storming Olympus and hurling Jupiter and the other deities from their heavenly thrones. This monster they describe as covered with plumage, and under each feather is a sleepless eye, a noisy tongue, an open mouth and an attentive ear, the poet ending the description by representing her as totally indifferent to truth :

"Jam ficti pravique tenex quam nuntia veri."†

* Herod. iv, 42, Rennell.

† Virgil, b. iv.

Even those names that have so far survived the lapse of ages are, if we may be pardoned the expression, only relatively immortal. The current of time still runs, and like bubbles on its surface, names that still exist will now and then go under, and new names will appear instead. How few even of the present historic names will survive the action of time a hundred centuries from now ! And it is melancholy to reflect, that of this list many of the wisest and best will perish from the earth—many of the worst and basest will endure. The pursuit of fame is like a boy's unavailing pursuit of a butterfly, which, successfully eluding the exhausted pursuer, may light into the grasp of another. Under the most favorable natural circumstances, spirits the most gifted and abilities the most shining may fail to attain the coveted prize that accident may secure to baser minds.

The ancients compared fame to an *ignis fatuus*, which, the more it is pursued, the more it flits away. From this man may learn one valuable lesson, namely, the uselessness and folly of attempting to make a name for future ages by methods incompatible with true worth and manliness. Even then these qualities should be cultivated for their own sakes, not for their effect upon the future. Otherwise, they are not natural: the actor plays his part with a false mask, and he is almost certain to fail in attaining fame, which is uncertain of attainment at best, and often untruthful in its expression when attained. We should imitate the example of the great Roman Cato, who according to Sallust, desired to be worthy rather than appear so. "Therefore," continues the writer, "the more he shunned glory, it pursued him all the more."

We shall conclude this article by attempting to describe the most prominent elements of a truly great and noble character; how their practice may be stimulated, and what lessons we may learn from their contemplation. Great mental abilities are a very important, though not an absolutely essential element of greatness, and these qualities alone have immortalized many names. Vivid feeling and imagination, or rather the emotional sensations of our nature creating such a capac-

ity, is another important element of greatness. History contains instances where intellects, previously dull, have been quickened by intense emotion into an activity and brightness rivalling the finest innate ability; and it is a singular fact that the exaltation of spirit thus produced is as permanent as though born with the individual. We have already given an illustration of this phenomenon in the case of the elder Brutus. The following case is also a good illustration: A distinguished American judge, noted for the quickness of his perceptive powers, and the brilliancy of his mental, in answer to a lady, who remarked that his abilities in childhood must have been very precocious, amazed the company by declaring that in childhood he had been unusually slow of comprehension; that he was the dumbest boy in school, and was, in fact, a blockhead of uncommon stupidity. His mother was a pious widow lady, tenderly devoted to her only son, and all the more because of the great obtuseness of his intellect. He was always at the foot of his class, and though his mother strove hard to aid him, his teacher was constantly complaining. Just previous to a certain examination, his devoted mother spent many a weary and laborious hour in teaching him a very simple lesson, purposely selected by his teacher in view of his known dullness. After many trials and great patience, his mother at length succeeded in making him recite it without a mistake before retiring for the night. Next morning, before going to school, his mother tried him again, but to her dismay he could not remember a word! Painfully yielding to the conviction which she had long resisted, that her son, despite her great care and disinterested exertions, was a hopeless fool, and, being overcome by her feelings, she laid down the book, buried her face in her hands, and burst into tears. Notwithstanding his dullness, the boy was a most affectionate son, and he was intensely excited at the spectacle of his mother's passionate grief. In a moment every word of the lesson flashed before him like characters of living light. "I know it now! I know it now, mother!" he exclaimed, falling down before her; and, to her intense astonishment, he

repeated the lesson word for word. The mother was motionless for a few moments; she then sank on her knees and clasped her boy to her breast, uttering a fervent prayer of thankfulness. Her tears still flowed abundantly; but they were now tears of joy. From that hour his dullness disappeared; learning was an ease and a pleasure; but the reaction from grief to joy proved too much for the poor mother, and a few months later saw her in her grave. We give this incident somewhat in full, because it probably illustrates the part emotion has played in many an historical crisis.

We will briefly mention a similar incident perhaps better known. The celebrated Cardinal Mezzofanti, the greatest linguist ever known, who understood 114 languages, is said to have derived his phenomenal facility of acquiring such knowledge from intense emotion caused by a desire to confess a foreign culprit, whose language none knew, and who had been sentenced to die on the following day. Sitting up all night, the good father—then a poor curate—applied himself to the study of his language with such zeal and success, that next morning he had the satisfaction of confessing the wretched man, and of giving him absolution, thus saving his soul, as he believed, from eternal misery. He had previously been regarded as a rather good linguist; thenceforward he became a phenomenal one, amply vindicating his title to the names of the Briareus of languages and the walking polyglot.*

Physical strength and personal courage, though desirable in themselves, are qualities common to man and many other animals, and of themselves constitute no title to worth or greatness. Combined with nobler qualities, they may give completeness to a great and worthy man; but yet are very subordinate in importance to the mental and moral characteristics. We may incidentally remark, that the emotional quality affects the physical as it does the mental system, with the important difference that its effect on the first is usu-

* Biog. Card. Mezzofanti.

ally transient, on the latter permanent and decisive. But by far the grandest element in the formation of a great character is the moral. This quality is but poorly defined in our language; but whether it be termed principle, moral courage, conscience or devotion to duty, it has ever been—when high-toned—the mainspring to the noblest and most heroic achievements of the human race. The caprice of fame may hand down to us such names as that of the athlete, Milo, or celebrated wrestlers and gladiators; but such careers have no influence on posterity, and merely excite a vague wonder. Even intellectual abilities may be perverted to the worst purposes, and though they excite admiration of the mental capacity that renders their deeds or works possible, the deeds themselves may fill us with horror, or the works poison the heart. Far otherwise is it with the exercise of the moral faculties, which, even when mistaken in their impulses, always evince a grandeur of soul, and command an admiration that no other qualities can secure. Neither does this principle owe anything to emotion. It soars far beyond this quality of our being, characterized as it is by a calm serenity and an inflexible resolution. Moral principle or devotion to duty has two prominent manifestations, if indeed they are not, as is most likely, two distinct and separate principles. The first is an unyielding firmness in what is deemed right, and to this quality the ancient poet so beautifully alludes:

“Justum ac tenacem propositi virum

* * * * *

Mente quatit solida neque Auster

Dux inquieti turbidus Adriæ

Nec fulminantis magna manus Jovis

Si fractus illabatur orbis

Impavidum ferient ruinæ.”*

This grand principle has sent many a martyr to the stake, especially in the causes of religion, liberty and human rights; and even in a mistaken cause it commands instinctive and involuntary admiration. Yet its very severity and rigid in-

* Hor. Od iii, 3.

ility have a cold and repelling effect on most minds, as it be accompanied with softer and more sympathetic ties. Unyielding as adamant, it often does not make allowances for the weakness of others. Much as we may re its grandeur in the abstract, it has much the same on us as an inaccessible glacier, or a snow-capped, avalanche-laden mountain, which we admire at a distance, but in the vicinity we will not permanently dwell. Few men will dare to emulate the terrible examples of stern integrity cited by Brutus and Manlius in their judicial careers, and we sympathize with the anguish they silently but unquestionably endured. Though this characteristic is a necessary grand element of a truly great and heroic spirit, we see it is not of itself sufficient to sway and dominate the souls of men. It is rather fixed in purpose and passive in re than actively heroic, and though sublime as a Himalayan, it is in itself as immovable and inert. But there is a second characteristic of the moral faculty, a more active principle which the ancients justly regarded as by far the grandest and finest quality in the composition of heroism and true greatness, namely self-devotion. This principle is the incarnation of the most godlike quality of our nature, a true embodiment of the golden rule, which the great teacher of mankind declared to be the substance of the laws and requirements of God. While inflexible in its own case, it throws out sympathies to other spirits, regarding each as its peer, and is always ready to sacrifice self to promote the welfare of others. Whose heart does not thrill with emotion at the sublime spectacle of the young girl from Indiana, leaving home and friends to be an angel of mercy and die among strangers in the plague-smitten city of Memphis? Who can measure the ever widening influence of such an example as hers, when perhaps the heroine herself has been long forgotten? Ancient story, both sacred and profane are alike in regarding this second principle as the culminating glory of human character. The grand example of the Founder of Christianity is a natural illustration of this truth; but barely alluding to this, we shall confine ourselves to mere human examples.

Perhaps the grandest illustration of this self-sacrificing quality on record is afforded by the great lawgiver of Israel, who requested from the Deity to be blotted from the book of life if otherwise he could not save his people.* The great apostle of the Gentiles, in declaring himself willing to be accursed from God,† if so he might save his people, manifested a similar spirit of self-devotion. No greater human names than those of these great men are recorded in the Bible. No greater spirit of self-devotion than theirs is recorded anywhere.

Yet the exhibition of this great quality is by no means confined to sacred history. Codrus, Leonidas, and the other worthies mentioned in the earlier part of this article illustrated their self-devotion in the most signal manner, and no names in Grecian or Roman history were honored as theirs.

The Athenians abolished monarchy on the death of Codrus,‡ declaring by law that no one could ever be sufficiently worthy to succeed him. This showed their appreciation of his sublime self-devotion to his country. The beautiful Greek legend of the faithful wife who submitted to die to save her sick husband's life, when the oracle proclaimed he could only be saved by another dying in his stead, shows a like appreciation.

Nor did the Romans hold the quality in less esteem, as a grand legend in Roman history abundantly proves.§ A wide gulf suddenly and mysteriously opened in the forum. In vain they strove to fill it up; and after throwing into the yawning abyss incredible amounts of earth and rubbish, it remained as before, unfathomable and unfilled. In dismay they sent to consult the oracle of the gods. The answer returned was that the gulf could never be closed till it held in its depths the most precious thing Rome contained, and declined all further explanation. While all others stood aghast, Quintus Curtius, a noble Roman, clad in full armor, mounted a fiery steed, and exclaiming that nothing could be more precious than valor and self-

* Ex. xxxii, 32.

† Rom. ix, 3.

‡ Grote i, 18, from Konon. Vell. Pat. Prerekydes et alii.

§ Liv. vii, 6, and elsewhere.

devotion, rode boldly into the chasm, which immediately closed over him. This typifies the sublime truth, that here or hereafter self-devotion can save a people or a race when all else would fail; and history proves that from the germ of such examples great deeds spring, as the harvest from the seed corn. Self-devotion of the highest kind is always combined with moral firmness, and the devotion to duty that springs from these qualities is the highest attainable motive that can actuate man, as the ancients well knew. It was not for nothing that Greece and Rome became the most brilliant nations the world had till then seen.

On looking back at the past we find that the nations who most thoroughly understood and practised the principles we have feebly striven to indicate were invariably the greatest and most heroic. Nor are modern times lacking in instances of self-devotion, though the ancients had a juster appreciation of the quality than we. One signal and recent instance in this country has already been given. At the battle of Waterloo,* a French cuirassier officer, observing that a gun loaded with grape was about to be discharged at his comrades, suddenly wheeled his horse, galloped up to the cannon's mouth, and, sword in hand, kept the gunners at bay. Of course he became at once the target for thousands of bullets, and soon dropped dead from his horse, but not before saving the lives of many of his countrymen. Such instances of self-devotion were not uncommon in the army of the first Napoleon. The self-devotion of Arnold Winkelried, at a critical time, had a telling and probably a decisive effect on the cause of Swiss liberty, and in one brief hour conferred on the hero an immortality of the noblest kind. Some forty or fifty years ago a vessel was wrecked near the Cape of Good Hope during a terrific storm. The vessel was aground some distance from the shore, with the breakers dashing furiously over it on the helpless crew. No boat could live in such a sea, and all were given up for lost. Meanwhile a neighboring planter rode

* Maxwell and others.

down on a splendid horse, and after looking a few moments, dismounted, blew some brandy into the nostrils of his spirited steed, and despite all remonstrance swam to the wreck. He returned safely with two sailors, one clinging to each stirrup. Again the noble animal was urged into the seething caldron, and again with two more returned in safety. This operation was performed no less than seven times, and fourteen lives were the fruit of the heroic and daring achievement. An eighth attempt was made, but horse and man were now becoming exhausted. As they neared the wreck for the last time, steed and rider were submerged beneath the roaring billows; the horse with some difficulty managed to swim back, but the noble-hearted owner disappeared forever.

The sense of fair play is a modified form of the moral principle, differing from moral firmness or a sense of justice only in degree. Chivalry and unswerving faithfulness in duty are also modified forms of moral firmness and self-devotion combined. Chivalry may be defined as fair play where one's self is concerned. It was finely illustrated by the French officer in the Spanish Peninsular war, who, when about to cut down a gallant English colonel, in the front rank, perceived that his right arm was gone; he rapidly changed the downward motion of his sword into a salute and passed on.* An English sailor, one of a party engaged in storming a Spanish fort in Central America, about ninety years ago, on scaling the wall, having two cutlasses in his hands, met a Spanish officer who was unarmed; he immediately presented him with one of his own weapons. A magnificent illustration of devotion to duty was presented during our late war. A soldier belonging to the picked corps of sharpshooters, during one of the operations in Tennessee, was stationed in a rifle pit in advance. During an advance of the enemy he was shot through the head, dying in a few seconds. These few moments he employed in destroying the adjustments of the

* Napier, Pen. War.

costly telescopic rifle, so as to render them useless. Fighting for his native land, this soldier was strictly and literally "faithful unto death."

And yet even such deeds as these can not secure an immortality unless accident has previously erected a stage from which it can be widely seen. Nor do they need such a counterfeit endorsement. Like the ever widening circle, produced by a stone thrown on a placid lake, it lives in the ever widening influence inspired by, and that in turn inspires, noble souls to the performance of similar deeds. Thus, it may be said, that the influence of good deeds is never lost, though the doer may be unknown or forgotten. Perhaps, in another sphere of existence, it may be the delightful privilege of the great, the noble and the good to trace through the ever lengthening ages the never-ending influence of a noble deed, perchance forgotten by them in this life. In any event, when we consider how vain, empty and partial human fame is, partaking as it does of human infirmity; and when we reflect how utterly useless it is to us personally, in a future existence, we see the folly and futility of the mad efforts of man to attain it. Let us rather seek to gain the approbation of that Being who holds the destinies of the universe in his hands, and who sways the record of the coming ages, than the feeble applause of our fellow worms of the future. This can be done by the constant and careful cultivation of those high qualities we have mentioned; qualities which, instinctively commanding the respect and admiration of men, must needs meet the approval of Him who implanted that instinct. It is a cheering fact in our life's career to remember that the higher such quality is, the more susceptible it is of cultivation. While physical qualities are improved by cultivation, the qualities of mind and emotion are susceptible of far higher improvement. Even these are surpassed by the moral qualities, in the capacity of high and rapid development, producing in many instances a startling revolution of character, often termed conversion or reformation. The approbation of

our own conscience is, or ought to be, a richer reward than any other approbation, whether of the present or future.

Whatever be our lot in life, the development of nobler faculties will prepare us in the most fitting manner for whatever may befall us, and will even make our prospects of future fame higher than they possibly can be by any other method.

ART. IV.—1. *Das Leben Jesu*. Tübingen. 1835.

2. *Der alte und der neue Glaube*. Bonn. 1873.

ABOUT one o'clock on the afternoon of the ninth day of February, 1874, flashed along the Atlantic cable the brief sentence: "David F. Strauss, the eminent German theologian, is dead." With brevity thus curt was announced the demission of one of the great theological and ontological dreamers of the nineteenth century, whose name has been familiar to the public for almost forty years as that of an intellectual Titan, and whose Hegelist dreams, as illustrated in his first book, the *Leben Jesu*, finally, and by natural progress coincident with the progress of the particular phase of speculative activity he represented, culminated in the barren, scientific pantheism illustrated in his last and most unique—*Der alte und der neue Glaube*. An interval of thirty-eight years intervened between the application of the ideal pantheism of Hegel to New Testament exegesis, of which the first is the logic exponent, and the ultimate rejection of religion, except as element of human thought—an element confessedly necessary, but nevertheless illusive—of which the last is the

plicit and unhesitating avowal. During that interval most of the great material facts and the coincident hypotheses of what may be termed the modern scientific culture have been developed and grouped about a central theory popularly known as the theory of Evolution. On the one hand, Darwin has woven the structural and biological aspects of this theory into a coherent system in his "Origin of Species" and his "Descent of Man;" while, on the other hand, John Stuart Mill, Dr. Bain, Herbert Spencer, and Professor Huxley, have concerned themselves in moulding its psychical and intellectual aspects into a parallel system of cerebral psychology, in which the notion of spirit, as being, is replaced by a mysterious operation of molecular forces, and thinking is relegated to the domain of molecular physics: a kind of dreamland of the physical sciences, pregnant with vague speculations, and thus answering passably well the purposes of a material substratum, to which to refer whatsoever in human consciousness appears inexplicable by means of the ordinary uniformities of scientific order.

The second quarter of the present century, during which the first work of the German dreamer appeared, was, it will be remembered, marked by a peculiar phase of speculative thought, in which metaphysics of the extreme type and physical investigations were curiously blended, and which eventuated in the strange theories of mesmerism and electro biology, on the one hand, and in the curious and trance-like reveries of spiritualism, on the other. In Germany it especially represented a period of transition from the misty metaphysical doctrines of Hegel and his disciples to the barren but speculative materialism of Helmholtz, Mayer, and Ecker, to say nothing of a hundred thinkers of lesser note, and answering the purpose of retail dealers in materialist theories. It was an era during which, if the metaphor is admissible, the protest of German thought against the vapory dreams of Hegel was deeply felt in literature, but had not yet become conscious of itself in open and positive dissent; an age pregnant with

the new protestantism that has since become the faith of philosophical thinkers, but not distinctly aware of its own tendencies, and instinctively shrinking from lucid recognition of its own conclusions. Had the spirit of Hegel taken hold less deep of the minds of his countrymen, it would not have been left to France, as represented by Saint Simon, Fourier and Comte, to elaborate the socialistic side of this protest; nor to England, led by John Stuart Mill and Bain, to co-ordinate the discoveries of Gall and Spurzheim in brain anatomy into a coherent structure of psychology. As it was, tormented with the nightmare of Hegelism, Germany supplied the dynamical element of the new culture, while to England and France was committed the elaboration of its special forms. As one who walks in sleep, she led the way, herself unconscious of the hegemony, and England and France consciously appropriated the results, while she was rubbing her eyes and wondering what it all meant.

As illustrative of this mood of the German mind in the special department of theology, the first work of Strauss is of peculiar interest to the general student. With quicker apprehension of the general tendency of his age, though with less profound analysis of the special facts, Comte in his *Être Suprême de la Humanité* spans the whole interval at a spring, and plants himself unequivocally on the exact ground Strauss has occupied in his last book, thus anticipating the main propositions of the Tübingen professor by half a century, and grasping with one strong effort the conclusions to which the latter felt his way step by step. All great works, whether in poetry or in philosophy, are polarizations of the popular consciousness with which their respective authors are in sympathy: and thus Comte and Strauss, the one with his God of ideal humanity, the other with his *universum* in place of Deity, stand as polarizers of the moral and philosophical tendencies of the races they respectively represent. In the instance of the one is interpreted the impetuous leap of the Celtic mind; in that of the other, the slow and semi-unconscious groping of the Teutonic, less given to revolution, because secreting less

lightning, but none the less mastered by the forces of the age by which it is environed. How closely, even in point of expression (to say nothing of the identity of the subject matter), Strauss, in the conclusions of his sixty-fourth year, approximates to the fundamental principle of the founder of the Positive Philosophy—that man's God is the ideal man—is nowhere better illustrated than by the following sentence from page 137 of his last work: *Was der Mensch sein möchte, über nicht sei, dazu mache er seinen Gott* (What man feels that he might be, but is not, he makes his God). That is to say, the idea of God is but the exponent of man's dream of the absolute man—a phantasm he conjures up in idealizing himself, and having no more than a subjective reality. It is seen, therefore, that, after nearly forty years of cogitation, the great neologist has arrived at M. Comte's primary proposition, so far as concerns the idea of God as a necessary element of human life. Again, his fundamental proposition of the absolute identity of matter and mind (*Die absolute Identität des Realen und des Idealen*), affirmed at page 152, was long since anticipated by M. Phillips, whose work on the physiological relations of spirit and matter was published in 1835, at Paris, as a part of Ballière's Library of the Imperial Academy of Medicine, but has never been translated. Not only anticipated, but anticipated in terms the elegant precision of which is in marked contrast with the cloudy uncertainty of the paraphrase. "*Un principe homogène*," says M. Phillips, with beautiful perspicuity, "*occupe seul l'univers entier; sa manifestation subjective s'appelle l'esprit ou générateur de la pensée; sa manifestation objective, c'est la matière*;" whereas Herr Strauss, by adopting the vague and metaphysical phraseology of Schelling, has left it to be ascertained from other passages whether he means to use the terms in their earlier speculative sense, or as synonymous with the matter and mind of Herbert Spencer and Professor Huxley.*

* This theorem, that the universe is occupied by one homogeneous principle, the subjective manifestation of which is spirit or consciousness, and the objective manifestation of which is matter, belongs to the domain

Our purpose in calling attention to these co-incidences of thought is not to impugn the originality of the German thinker, for the same rule, and, indeed, the same volume, would equally impugn the originality of Spencer's whole system and of Huxley's theory that thinking is a phenomenon of molecular physics; but, on the other hand, to indicate the intellectual sterility that necessarily accompanies this special phase of modern speculation, limited, as it is, to the task of accounting for all the phenomena of nature and of human life by reference to the observed uniformities of matter, and thus compelled to create a coherent universe out of molecules of the constitution of which it apprehends nothing, except that, as M. Phillips lucidly expresses it, matter is supposedly *divisible à l'infini*. When, therefore, at page 121 of the Bonn edition of his last work, the aged pupil of Hegel concludes that, the identity of matter and mind granted, the idea of a personal extra-universal God is not conceivable (*"Es ist an einen persönlichen ausserweltlichen Gott dabei nicht zu denken"*), he merely lays down a proposition from which there is no escape by byway or alley of logic. If the premises are sound, then his final deduction that mind is a physiological function, destiny a fancy, and reabsorption into the universe the end of all our day-dreams of immortality, is so pitilessly apparent that the only wonder is how he succeeded in shutting his eyes to the

of molecular physics, but is exactly parallel with the metaphysical proposition, as Strauss and Schelling put it. Thus materialism and idealism are fundamentally the same, in that both affirm this identity of mind and matter; only the materialist regards matter as potential and self-moving. From his point of view, matter becomes conscious of itself in mind or thinking. On the other hand, to the idealist mind becomes conscious of itself as conditioned in the phenomenal, which, however, is simply its own shadow. As a very acute critic has pointed out, though seemingly antagonistic the antagonism between the two is only an antagonism of terms. That, while conscious of himself as material organism (matter), man is conscious of himself as more than matter, materialism is unable to explain. Nor can molecular physics account for the fact. Spencer virtually confesses this in his essay (see "First Principles") on the consciousness of the Unknowable, and Huxley ("Lay Sermons") in his dissertation on Des Cartes.

result of his own system from the age of twenty-seven until, like a leaf, he turned sere and fell. In the whole history of materialist speculation, from the Ionic philosophers, with their hypothetical *hyle*, to Huxley and Spencer, with their matter *divisible à l'infini*, not a single instance occurs in which these premises have not led to the same identical conclusions, they are so like Siberian wastes of steppe in their barrenness; and had he been successful in spiritualizing them, his insight must have been supra-mortal, or his acumen an infinitesimal quantity. As it is, this Swabian Ikaros, whose strong wings bore him sunward so long in spite of the five hundred pounds of matter tied to his heels, as Heyne has it of Rubens, only proves himself human in that he drops to earth at last, and, with sad presage, accepts at sixty-four the absorption into the universe against which he has for so many years held out. Life, says he at the very last, is a dream of nothingness about something—the sad but inevitable religion incident to all phases of materialism. Nor is the empty and spiritless fatalism of this final verdict rescued from sterility by the transcendental proclamation that “this world of absolute ideas, or the *universum*, and the world of relative ideas, in which the word is susceptible of a plural, must be carefully distinguished, in that the latter, fast tied to the partial and evanescent, has its limit in space as well as its beginning and end in time; while, on the other hand, the *universum* is without limit in space, and endures and maintains its unity through all time.” It is pleasant, of course, to be advised of this law of the new religion, and it would be pleasanter still, no doubt, were the information expressed in comprehensible terms, and not in a sentence so tortuous and involved that it appears to begin by accident and end by a special dispensation of Providence.

This vague and unsatisfactory proposition furnishes, however, a definite clue to the intellectual bias, partly natural and partly the product of environing critical and speculative elements, that determined the literary activity of Strauss, and, while perpetually protesting against the blank and barren skepticism of those who regard the soul as the

exponent of physiological conditions, finally forced him to accept that position, though with the reluctance and hesitancy of a man whose instincts and culture are at war with the logical faculty. A glance at the facts of his biography explains this conflict. Born at Ludwigsburg, June 27, 1808, he was first sent to the academy in Blaubeuren at the age of thirteen, and remained four years. At seventeen (1825) he entered the university of Tübingen, and was graduated in 1830. Two years later, having passed six months in Berlin, in the study of the Hegelian philosophy, he returned to Tübingen, where as *Repetent* he delivered a series of lectures on Hegel. In 1835, three years after his return from Berlin, his *Leben Jesu* was published at Tübingen, having been first submitted by his publisher to the perusal of the celebrated Neander, whose criticism was that, though not orthodox, it was written in a scientific spirit, and would make a flurry in theological circles. The result more than justified Neander's remark, for during the two years that intervened between the publication of the book, and the revision of it with additional polemic, "*Das Leben Jesu Kritisch Bearbeitet*," called out by the acrimony of his critics, several editions were exhausted. This polemic failing to allay the irritation, he issued a kind of philosophical apology for the *Leben Jesu*, entitled "A Dissertation on the Ephemeral and the Permanent," in which, while reaffirming his original positions, he contended that the ideal underlying the myth was the valuable element of the New Testament narrative, while, as history, it contained nothing specially essential to spiritual nutrition. These papers were afterwards published under the title of "Two Peaceful Letters." M. Littré, long so familiar as a leading positivist and now better known as an eminent lexicographer, translated them for the Paris market, where, according to the "*Nouvelle Biographie Générale*," they were published in 1839. From this date on, saving frequent contributions to the reviews, his writings were mostly biographical and æsthetic—for his last volume, with its central idea of an *universum*, appears to be a loosely edited aggregation of occasional

essays, some of which, like the essay on Goethe, have no special relation to the general theme—others, among which may be reckoned the “*Zweck der Welt*,” being extremely cursory dissertations on the teleological aspects of modern thought. In 1848 he entered the arena of politics under the strong revolutionary tendency that just then brooded over Europe, and, having been defeated as a candidate of the German National Assembly, was returned by his native town as a member of the diet of Wurtemberg. But the popular impulse was not equal to the task of converting the dreamy but frigid critic into an enthusiastic exponent of the socialist ravings of the Young Germany party, and so unsatisfactory was his course that his supporters called for his resignation, and he lost the ephemeral popularity occasioned by his “*Romance of the Throne of the Cæsars*” (“*Der Romantiker auf dem Throne der Cæsuren oder Julian der Abtrunnige*,” Mannheim, 1847), in which Frederick William IV. appears as Julian the Apostate. His wife was an actress in early life—one Agnes Schevest, of Vienna, five years his junior, who in later years turned author and produced a very clever volume of reminiscences under the pretty title of “*Aus dem Leben einer Kunstlein*.” Ample verge here for dream-life, whether philosophic or poetic: small room, nevertheless, for the humanizing action and tonic effort which are oxygen to the moral faculties!

The profound critic of human life will not expect to find vital faith in a life so barren of moral crises as that of the founder of neology, for the world has learned to know that there is something ill-humanizing in exclusively intellectual activity. Faith is the moral aura engendered by active struggle after the good. Tossed hither and thither of life, sore buffeted with sorrow and misfortune, or stricken and wounded of men, no dreamer's dream fills the worker's need, howsoever sufficing that dream to those who shut themselves away from life, in libraries of antique volumes or in desks, surrounded by sympathizing pupils. For faith is not merely insight, but impulse and motion towards an end—that end the good and the beautiful.

Of the buffetings that make men know their deepest needs, Strauss, in quaint and quiet Tübingen, knew nothing. From his books to his desk for a metaphysical disquisition on Hegel, from his desks to his books again—this was the life from whence grew the *Leben Jesu*, and only to this, a kind of dream-living, is the *Leben Jesu* adopted. In the nature of the case, a man's work is for those of his own kind; and as in most lives the dynamic or active element—that which makes heroes—preponderates over the static, so most men learn, sooner or later, to distrust mere intellectual analysis and to ignore its conclusions, as unreal, and as having no vital relation to the problems that so sorely vex them. To the poor tempted soul, pulled this way by interest or want, that way by instinctive loyalty to truth and honesty, what matters it to be told that moral rectitude is the exponent of a physiological equilibrium between the cerebro-spinal nerve-system and the great sympathetic nerve-system? "*La conséquence physiologique*," says M. Phillips,* and so implies Herr Strauss in his "Old and New Faith," "*des rapports anatomiques établis entre les deux grands appareils vitaux, le système nerveux cérébro-spinal et le système nerveux grand-sympathique*." Extremely comforting to know this, it may be to those who, spider-like in their works, spin gossamer webs of philosophic speculation, but those whose lives are troubled care little for equilibration of nerve-centres; and besides, the proposition has been negatived by very recent physiological discoveries, and therefore need not be formally refuted.

There is, then, this great fact of the absence of active struggle with the hard problems that trouble humanity, to account for the dreamy, unsympathetic attitude Strauss assumed at twenty-seven. Yet it is possible to over-estimate the hegemony of Hegelism in forming his mind and determining the special direction of his work. Of the same province with Schelling, the peculiar bias and tint of his earlier writings are traceable to Schelling's "Philosophy of Revelation." The bias

* Electro-Dynamise Vital. Paris, 1855.

he outgrew, but the tint is as perceptible in his last work as it was in his first, and constitutes the one permanent element of his intellectual activity. It is this that rescues his final volume from abject spiritual servility to matter, though its logical and intellectual submission is no less complete than that of Dr. Bain* or Professor Huxley;† and it is witness to the striking resemblance in intellectual and spiritual traits between these two sturdy Swabians, that the imaginative aura the younger caught from the elder should have persisted so many years after its logical basis was removed. Both minds were of artistic cast, with a predominant and intense love of the beautiful; and to what logical conclusions soever the man of true artistic spirit may come, his higher nature is sure to overbear and contradict them, not only in literature, but in the everyday concerns of life. Thus, in the logical aspects of his nature, Strauss rejected religion and the supernatural as unrealities, while his artistic cravings forced him qualifiedly to accept them as the sources of that ideal of human life that pricks humanity to onward progress. This compromise furnishes the clue to the perpetual contradiction that alike pervades the *Leben Jesu* and the "Old and New Faith;" to the struggle for mastery between the rational intellect and the higher spiritual cognition, now the one thrown, now the other, in the life-long wrestle of the Jacob of reason with the angel that must continually intrude itself upon his attempts to fashion a coherent universe.

As the sequel of this trait, in his first *wandersinn* he sought to establish a coherent philosophy of the life of Jesus and to effect a reconciliation between the critical doctrines of Ewald and Von Baur, which seemed to him destructive to the historical authenticity of the gospels, and the higher spiritual facts unfolded in the text, just as Schelling had endeavored to bring Rationalism and inspiration into concord in his "Philosophy of Revelation;" and like its predecessor

* Mind and Body. Theories of their Relation. London, 1873.

† Lay Sermons. London, 1870.

in a kindred field, that of the "*Philosophie der Offenbarung*," Strauss's reconciliation is little else than a confession that the hard conditions of the problem must for the present defy intellectual analysis; mainly, perhaps, because of the floating and unsatisfactory condition of psychology, so obscured on the one hand by volumes of metaphysical vapping, and so burdened on the other with masses of unacrified material speculation, that until some new Kant arises to verify and put order into disorder, no co-ordinate and well-grounded results can be expected. In capacity for psychological analysis the adventurous young theologian was painfully limited both by nature and by culture; by culture, because the vast metaphysical dreams of Schelling and Hegel, and the methods of thought they engendered, were wholly alien to the habit of thorough and careful observation so necessary to the scientific study of psychology; by nature, because these methods of thought, empty and vague, unreal and out of all relation to life, transcendental and generalizing as a sermon by Theodore Parker, had become hereditary to the German mind and controlling elements in its literature; and thus he set out with an inherited and carefully fostered ineptitude for the task to which he had devoted himself. But it will be better to recur to this topic further on, and to give here a hasty map of the great critical movement that eventuated in the *Leben Jesu*, deferring criticism for a few paragraphs.

Most readers are aware that the Mosaic origin of the Book of Genesis has been denied only within the last century and a half. As a substitute for the generally accepted tradition, this denial starts out with the proposition that Genesis is a *mélange* from primitive documents, edited about the time of Solomon. The basis upon which this hypothesis rested was the discovery of Astruc, in 1753, that it is possible to separate the book into fragments distinguished respectively as Elohistie and Jehovistic. This author proposes to regard Genesis as compounded of twelve primitive memoirs, from which Moses is supposed to have composed in twelve columns, and subsequent confusion of which by copyists is presumed to account for the

present form. The next critic in order reduces the twelve fragments to two pre-Mosaic documents, distinguished by Elohim and Jehovah respectively. These the author copies and mixes quite to his fancy into narrative of more or less coherency.

Then comes Ilgen, with his seventeen original documents and only three authors—one Jehovist and two Elohist; then, De Witte, who connected the seventeen primitive records of Ilgen into one continuous Elohist record, into which the edition is supposed to have woven sundry Jehovistic fragments and many comments and corrections of his own; then, Von Bohlen, who agrees with De Witte so far as concerns the continuous narrative, but denies that any Jehovist fragments existed, and contends that all passages in which Jehovah occurs must be ascribed to the editor. Grumberg makes three authors—the Elohist, the Jehovist, and the editor, to whose unscrupulousness in substituting one name of deity for the other at different points he refers the irregular use of the two names.

Ewald is shifting and unsettled in his opinion. At first he held the unity of Genesis, and was remorseless in denouncing his opponents. Ten years later he proposed to find the basis of the book in a very ancient writing distinguished by peculiarities of style and by the use of Elohim for God up to Exodus vi. 2. This author, he thinks, incorporated into his work certain ancient documents; as, for example, the Decalogue and Exodus xxi. to xxiii., inclusive. Afterwards, says Ewald, there arose another work on ancient history, which ascribed the use of Jehovah to Abrahamic and even to Sethitic times, and portions of which were incorporated into the old Elohist history by the author of Genesis in its present form, thus making at least four writers concerned in the book as it now exists. Still later, Ewald has another theory, and supposes more than two treatments of the ancient history included in the Five Books of Moses and the Book of Joshua. These several accounts were, he thinks, edited by somebody living in the time of Jotham.

Hüpfeldt accepts as the ground of the present Genesis three independent historic works, two Elohistie and one Jehovistic, and adds an editor. Knobel maintains that only two documents are concerned in it—first, the Elohistie, forming the basis of the Mosaic books and the books of Joshua; secondly, the Jehovistic primitive and the Jehovistic secondary narratives.

As Hengstenberg* and Hüvernick† have clearly indicated, this whole system of criticism rests upon the assumption that Elohim and Jehovah are synonymous names; while, on the contrary, Elohim is general, like the Greek *Θεός*, and Jehovah personal, like the Greek *Ζεύς*, never taking the genitive case. Besides, as the same learned critics have pointed out, Elohim and Jehovah are by no means the only names of God employed in Genesis. God is also styled *El*, *El Elyon* (Most High God), *El Shaddai* (God Almighty), and *Adonai* (the Lord), of which Ewald and his coadjutors take no proper account. Another fact that went far to destroy the fragment hypothesis was the discovery of the true origin of the word Jehovah from the old Semitic verb *היה* (to be), whereas the advocates of the hypothesis had assumed it to be cognate with the Latin Jove and the Greek *Ζεύς*, and through them referable to the Sanscrit *deva*‡. This crude example of philological invention furnished, however, the primitive germ of the mythological theory of Genesis, by connecting together the Hebrew record and the classical mythology in one common historical association. All history, said the Rationalists, begins in myth, and why should Jewish history be regarded as exceptional in this respect? Hence arose the theory which Strauss expounded, and of which he made a systematical application in his *Leben Jesu*, though with a higher acceptance of the term myth and with a more profound apprehension of the relations of symbols to spiritual truth.

* Commentar über die Messianischen Weissagungen.

† Historisch-kritischen Einleitung des Alter Testament.

‡ Real-encyclopädie für protestantische Theologie und Kirche. In Verbindung mit Protestantischen Theologen und Gelehrten herausgegeben von Dr. Herzog.

The probable motive that impelled him to propose this special reconciliation of speculative criticism with the necessary spiritual facts underlying modern culture has been pointed out, and the main conclusions of biblical critics as they entered into the formation of his system have now been briefly noticed. To apprehend the philosophical standpoint from which he contemplated his task of reconciling the discordant elements, whose unstable equilibrium had so long troubled German theology, it is necessary curtly to review the subjective side of his hypothesis.

When, in 1831, he repaired to Berlin to complete his studies, that city was the speculative centre of Germany, and swayed in theological circles by the dreamiest of the dreamy. There, even to a greater extent than elsewhere, it was the fashion to study theology with the spectacles of the Hegelian intuition astride of the theological nose. The universe, according to Berlin, was but the continuous evolution of an infinite potentiality, apprehended mostly by Berlin professors; and the Absolute—that will-o'-the-wisp of German metaphysics—was to be sought, not in the ideal substratum, which could not be a positive existence, nor in the matter-of-fact phenomenal, which could have no permanent reality, but in the perpetual process of self-evolution. Whatever existed was to be considered as having a necessary but merely transitory being: the ideal forever tending to realization, but being quite incapable of that to which it was forever tending. Besides, there was involved in Hegelism a positive denial of the personality of God, and a positive assertion of the incompleteness and inadequacy of all existences, and the absorption of the individual into the universally but unconsciously potential. Thus all existence was phenomenal and evanescent, and God but a blind potentiality breaking into bubbles of being! A more complete system of pantheism than this was never propounded. It would be absurd to say that it was not grand—ideal—for it was. But it was pantheism, nevertheless, and Marheinecke, Daub (whose biography was afterwards written by Strauss), and Göschel, at that time its exponents—for Hegel died four

years before the *Leben Jesu* was issued—were pantheists of the most fascinating type, though numbered as sound defenders of the faith.

Strange that they did not see it, but they did not! Strange that German theologians were so obtuse as not to discern the discrepancy! But they did not until the young Tübingen professor made a consistent application of it to biblical interpretation, and taxed them all with inconsistency. The old form of Rationalism, bald and ineffective, had been destroyed at Berlin by that dreamiest of theological dreamers, whose pupil Strauss was for six months, and from whom he caught the special form that his system assumed. He was now dead, and Neander was the lion of Berlin University, as Tholuck was of Halle, Stendel of Tübingen. The period was one of comparative calm, these several opposing elements of German thought working together in unstable equilibrium. Polarizing the special speculative mood of Berlin, but far enough from being identified with it to detect its inconsistency, he saw that the question must come up some time, and his purpose appears to have been to establish an ideal harmony between the speculative aspects of Berlin theology and the practical truths of religion, and thus to mould both into permanent and coherent system. His fundamental propositions were :

1. That miracles are *à priori* incredible, because inconsistent with the observed uniformities of nature.
2. That all accounts of supernatural intervention are myths, but myths enfolding and enkerneling profound spiritual conceptions. His definition of the myth is strictly in accord with these primary propositions, and applies to any narrative which "*mit bekannten und sonst überall geltender Gesetzen der Geschehens unvereinbar ist.*" That is to say, is inconsistent with the known and universally operative laws of nature.*

* These myths of the New Testament have, according to Strauss, two distinct sources (*quellen*): the more ideal of them arising from the Messianic expectations and presages in circulation at that era; the more apparent historical from idealization of the traits and acts of Jesus at the hands of his disciples. Those of the first class are universal, those of the second contingent on personal aura.

There was nothing new in either of these propositions. Semler had applied the mythological hypothesis to the stories of Samson and of Esther, quoting Heyne's famous generalization that the history and philosophy of primitive man everywhere begins in myth; and Vater and De Wette had not scrupled to advocate the mythological interpretation of Old Testament history, at least in portions of the record; while Gabler, with sweeping and pitiless consistency, had openly held that all narratives involving angelic visitation had the essential manner of mythology. Even the Berlin mystic and dreamer, whose pupil Strauss had been, did not hesitate to consider the story of the Temptation as of mythical origin. Others had applied similar tests to the details of the Nativity and the Resurrection. On the other hand, he was the first to elaborate existing exegetical tendencies and expand them into a system, and to lay bare to theologians the fact that, in so far as their theological tenets were drawn from Hegel, those tenets were in opposition to orthodox theology. It was this, no less than the marvellous ingenuity with which he applied his principles to the exegesis of the Gospels, that contributed to bring on a new crisis in Germany; and the fact, that he clearly indicated the discrepancy, and thus, impliedly at least, accused contemporary theologians of stupidity, was, no doubt, one of the causes of the acrimony visited upon the great exponent of ideology—for his book appears to have been an honest attempt at reconciliation, not a mere *melange* of critical and philosophical tenets, by way of producing a readable volume. So loving of harmony was he that a German journalist who knew him well writes, his *passer temps* in pleasanter moods was to walk to and fro in his study, repeating in the rare monotone his pupils will all remember, Schiller's beautiful stanza :

“Soul-trancing melodies together woven,
A sheaf of voices sweet and dim,
Rain from the strings, as from the highest heaven
Drop down the songs of Seraphim.”

But to return. The key-note—the *motif*—of the work is struck in the very first sentence of the preliminary explanation (*Ausbildung des mythischen standpunkts*), and an extremely long and sonorous sentence it is. “Wherever,” says he, “a religion founded upon written documents expands itself in space and time, and survives through a culture of its followers more complex and artistic than that in which it originated, there comes about, sooner or later, a discrepancy between the ancient form in which it was delivered and the new culture with which it is interfused, and which as sacred script accepts its written works.”* It would be impossible to deny the fact that, considered as the enunciation of a general principle, this sentence is consistent with the results of actual observation. The Greeks, in the days of Plato, had already found it necessary to regard their myths as symbolizing profound truths, as is evident from the works of that philosopher, and equally evident from contrast of Pindar’s under-world with that of Homer. Anaxagoras is accredited with the invention of the allegorical method of exegesis as applied to the religious remains of the Hellenes: for Homer’s gods, says the ancient philosopher, did many things inconsistent with the nature of gods, which must be regarded as allegories intended to elucidate a mystic principle, rather than as literal assertions to be literally interpreted; and how far Pindar, with all his poetic insight and his many tentative solutions of the religious problems that vexed his lyrics, was bitten with the budding skepticism of his age, is indicated by his sad reply, in one of the *Olympics*, to the question, What is man, great or small, high or low, or, as the text runs, nobody or somebody? “The dream of a shadow is man,”† answers the poet in three words, that an

* Wo immer eine auf schriftliche Denkmale sich stützende Religion im weiteren Raum und Zeitgebieten sich geltend macht, und ihre Bekenner durch mannigfaltige und immer höher steigende Entwicklungs- und Bildungsstufen begleitet: da that sich früher oder später eine Differenz hervor zwischen demjenigen was jene Urkunden bieten, und der neuen Bildung derer, welche an dieselben als an heilige Bücher gewiesen sind.

† *σκιας οντας ανθρωπος.*

anonymous rhymester translates and expands in the quaint quatrain:

“ Man is he knows not what;
He comes he knows not whence;
His whither knows he not,
Save that he passes hence.”

And although he afterwards adduces many consolations, among them that by and by comes the hero-man, clad in strength, as with the skin of a lion he has slain with his own hand, he never once denies the validity of his initial proposition, that, sooner or later, this view of man and his destiny forces itself upon our religious reveries, culture having risen to a certain mark, appears to be established by the intellectual history of the ancients, as a universal principle; and thus far Strauss was right. On the other hand, the question at issue was one that regarded a matter of history and a religion grounded upon certain narratives assumed to be fact. Jesus was an active worker, not a dreamer and idealist. He elaborated no mystic ritual, the symbols of which were to turn obsolete with the lapse of ages. His religion was a religion of the life, encumbered with no rhythmic round of mysteries, resting upon no ephemeral tenets of philosophy. The life of faith, the life good, and the life beautiful—through them the life eternal—formed the burden of his brief but wonderful expositions. Thus, linked to surpassing simplicity and surpassing pathos of beauty, his life and his utterances partake of the nature of the universal. No culture can outrun them, because, although the special forms of civilization are Protean, they are potential elements in the best and the most beautiful—the most sublimated and ideal—that human culture can assume. Hence their relation to human life was permanent, while that of the myth, Greek or Gothic, was ephemeral; and so obvious as a proposition in the study of comparative religion is this fact that Max Muller accepts and grounds his whole system upon it. That, with all his learning and acumen, Strauss should not have detected this distinction, witnesses to the philosophical bias that controlled the production of the *Leben Jesu*,

and forced him to subordinate his exegesis and his criticism of the text to certain fixed and inflexible Hegelian institutes. What those institutes were is illustrated by the following passages, which contain the philosophical pith and basis of that famous work:

“When God is spoken of as a spirit, it is necessarily implied that man is spirit also, since neither can be separated from the other. More correctly, since it is essentially the nature of spirit in distributing itself into individuals to remain identical with itself, the cognition of God as spirit includes this, that God exists, not as a barren, absolute, external to and beyond the relative, but enters into the finite as nature, and the human soul only as his externality ceases, he forever returns to unity with himself. As man, as finite and as spirit conditioned in time and space, has not truth: so God, as infinite and unconditioned in his infinity, has not reality: for the finite spirit is only true to itself when it sinks itself in the infinite. The true and real being of spirit, then, is neither as God by himself, nor as man by himself, but as God-man.

“If God and man are one, and religion is the human side of this unity, then must religion for man consist in the cognition and reality of God as spirit.”*

These two striking paragraphs describe the speculative institutes that form the intellectual basis of the work under consideration better than any prolonged and exhaustive analysis could, and those who regard the literary activity of its author from the standpoint of biblical criticism, rather than from that of philosophical system, err in their estimates of him as a man and as a thinker. Attention has been mainly directed in Eng-

* Wenn Gott als Geist ausgeprochen wird, so liegt darin, da auch der Mensch Geist ist, bereits, dass beide an sich nicht verschieden sind. Näher ist in der Erkenntniss Gottes als Geistes, da der Geist wesentlich dies ist, in der Unterscheidung seiner von sich identisch mit sich zu bleiben, dies enthalten, dass Gott nicht als sprödes unendliche ausser und über dem Endlichen verharrt, sondern in dasselbe eingeht, die Endlichkeit, die Natur und der menschlichen Geist, nur als seine Entwürserung setzt aus der er ebende ewig wilder in die Einheit mit sich selbst zurückkehrt. So wenig der Mensch als bloss endlicher und an seiner Endlichkeit festhaltender Geist Wahrheit hat: so wenig hat Gott als bloss unendlich or in seiner unendlichkeit sich abschliessender Geist Wirklichkeit: wie der endliche Geist nur dann wahrer ist wenn er in den unendlichen sich vertieft. Das wahre und wirkliche Dasein des Geistes also ist weiter Gott für sich, noch der Mensch für sich, sondern der Gottmensch.

Sind Gott und Mensch un sich Eins, und ist die Religion die menschliche Seite dieser Einheit: so muss diese in der Religion für den Menschen werden, in ihm zum Bewusstsein und zur Wirklichkeit kommen.

land and America to the exegetical and critical aspects of his work, because, the doctrines of Hegel having no vitality from the point of view adopted by English-speaking theologians, these aspects only were of importance to English and American readers. Thus the general student, except in Germany, has been led insensibly to class him with the mere textual critics of the New Testament, always ready to find a flaw or detect and make the most of a verbal discrepancy, than which nothing can be more unjust to the memory of the dead. The intellectual and moral attitude of the Tübingen dreamer is of a type higher and more earnest than that of the skeptic who is unbelieving for the mere luxury that the sensation of skepticism imparts. As is evident from the foregoing passages, he fancied, in the enthusiasm of his youth, that he had penetrated to the substratum whence the profound yearnings that find vent in religious faith and in mystic dreams of the God-man. He saw himself handed down to posterity as the first to elaborate a permanent philosophy of theanthropy, and to bring the special facts that everywhere, and in all races, repeat themselves in myths of incarnation, under the dominion of a universal principle. God and man are one, and religion is the human side of this unity ;* and the true and real being of spirit is neither as God *per se* nor as man *per se*, but as God-man.† Man has no truth to his inner self, except as God; God has no consciousness of reality, except as man.‡

* *Sind Gott und Mensch an sich Eins, und ist die Religion die menschliche Seite dieser Einheit.*

† *Das wahre und wirkliche Dasein des Geistes also ist weder Gott für sich, noch der Mensch für sich, sondern der Gottmensch.*

‡ With our more observational habits of thought, it is not easy to estimate the force that these propositions carried to the German mind in 1835, or even to understand how they should have had any force at all: so difficult is it to enter into vital sympathy with opposing modes of thought. On the other hand, what force they had in Germany is evinced by the universal admiration of Hegel's *Philosophie des Geistes*, and its reception for almost half a century as the utmost in its special direction; whereas to our minds, disabused of the metaphysical culture by Bacon, Hegel's system appeals only as a splendid work of philosophical fiction—a mere magnificent poem, only separated from “Paradise Lost” by lack of rhythm.

It is this last position that tethers him to Hegelism* as to a pivot, and prevents him from rising to a full comprehension of the historical value of the life of Jesus as the God-man, and the perfect examples of the ideal manhood. His violent expulsion of the supernatural from his biography of the God-man, whose inner life he sought to unfold and elucidate, was one of the results of this unfortunate philosophical tenet, and serves to exhibit the spiritual importance of Hegel's main theorem. "The rational is the real."† From this to the hopeless materialism of his last work: man an insect blindly groping about on this great ball of matter: God an *universum* blindly expressing itself in nature. It is but a single step, though he was almost forty years in taking it; and what makes his career all the sadder is, that the spiritual cravings within him should have held him back so long, and yet should have permitted him to fulfil the logical end of his system at the last, when, a white-haired old man, he drops into materialism and into the great grave of matter at one tottering fall. For nearly forty years he hung fascinated over the abyss of nothingness, then swayed for a moment upon the verge—and fell.

It has been our task thus to furnish the materials for an accurate and unbiased apprehension of Strauss's intellectual attitude, and of the influences that contributed to the formation of that attitude. It now remains to discuss the critical and scientific aspects of his two great works—the one initial, the other final; and, in doing this, our stand-point will be that of pure criticism, not that of theology.

The time seems to have come when it is possible to separate the question of historical authenticity from that of inspiration, and to discuss the two questions *seriatim*. The former, as part and parcel of historical criticism in the modern acceptation of the term, is within the function of the lay reviewer; and it may be as well to begin by stating it as a fair lay con-

* Phänomenologie des Geistes.

† *Logik*. Edited by Dr. Von Henning.

clusion that, whatever else it may be, and howsoever it may have originated, no part of the Book of Genesis, with the possible exception of the story of Eden, is essentially mythical. Indeed, as Lange* conclusively demonstrates, the book has the manner of primitive family record, and though written in the third person—a habit common in ancient documents—is essentially biographical. Happily, besides establishing the authenticity of certain events in Jewish history, the discovery of the Moabite stone settles certain questions as to the ancient oriental method of composition. The God is uppermost; the man is impelled hither and thither at the mandate of his Deity, be it the Khemosh of Moab, or the Jehovah of the Jews. The whole tenor of the inscription bears forcibly upon the decision of this point. Khemosh says unto Mesha, King of Moab, “Make war against the Hebrews,” and he makes it. In a similar manner, the tablets exhumed by Mr. George Smith, of the British Museum, which have aided so materially to furnish the missing links in Assyrian and Babylonian history, represents the God as acting through the man as his agent. It is this stand-point of the narrator that accounts for the attitude of King Mesha in regarding himself as a third person in the composition of the Moabite tablet;† while the attitude of the narrator in relation to the event similarly accounts for the use of the third person singular in the preparation of his narrative in instances where it is really autobiographical. For example, in Genesis, xxii., 1–19 inclusive, in which the temptation to offer Isaac upon the altar is detailed, the fact that Abraham is spoken of in the third person in no way militates against the hypothesis that Abraham was personally the author of the narrative.

It follows, also, as an induction from these facts, that the element of the supernatural and miraculous in ancient writings is neither essentially nor intentionally mythical. Whether this element be accepted as fact or treated as illusion, it was

* Die Genesis nebst Einleitung in das Alte Testament.

† *The Moabite Stone*. London, 1873.

certainly fact to the writers of oriental antiquity, and thus, instead of appearing as a mythical element, it appeals to criticism as a psychological element of these fragmentary and primitive compositions. These elements, therefore, enter into the composition of Genesis in common with most antique documents. They are: First, the element of objective historical fact, consisting in the main of memoranda of events and of genealogical tables. Secondly, the element of subjective psychological experience, eventuating in a tinge of the supernatural and miraculous, which represents the writer's construction and interpretation of the facts, and interpenetrates with peculiar and often weird significance.

Critics may accept the facts, without accepting the writer's interpretation of them or admitting the validity of his subjective experiences, or they may accept both: but acceptance of the former by no means involves acceptance of the latter as a necessary consequence; although, in either case, one is bound to accept the writer's sincerity and good faith in the construction he puts upon the facts of his story. Thus, the reader may agree that Abraham had a dream, as related in Genesis xv., 1-7, and may also agree to his good faith in the construction he puts upon it, without necessarily agreeing that the construction is scientifically sound: and so on, and so on, through the whole series. In a word, the Mosaic record consists of two interwoven series of facts—the historical and the psychological; and when Abraham narrates his journey into Egypt, and the facts that occurred there, the reader has an example of the former, which, except for good reasons, he is scarcely at liberty to doubt; while, when he speaks of himself as talking with Jehovah, or conversing with angels, the reader has to deal with elements of a psychological type, as concerns in which his necessary attitude is, that whether objectively true, or whether illusory, they are actual subjective experiences. To a more limited extent this principle of criticism applies to modern narrative composition, which, in common with ancient, necessarily consists of the facts narrated, and of the author's special view of their relations to each other, and

so the general, which the reader may accept or reject. In short, this discrimination of narrative into two elements, the one consisting of events, the other subjective perception of events in their relation to the universal, is a fundamental principle of historical criticism considered as a method of determination.

Accepting the conclusion of Dr. Seyfforth* that the alphabet was invented by the antediluvians, it is clear that the only admissible hypothesis of Genesis is that which presumes a series of documents preserved and added to as family records from the remote era of Seth, to whom Semitic tradition ascribes the discovery of alphabetic writing, down to the Mosaic period. The principal names of God, Elohim, and Jehovah, employed in the text, so far from being criteria to its division into documents, are invariably limited to specific purposes: the one, as Kurtz† indicates, representing God as creating and standing at the head of the universe; the other, God as he enters into history and reveals himself to man within the historical circle.

Many curious facts bearing upon the inadequacy of the mythological hypothesis have lately come to light. It has, for instance, long been held as an objection to the historical authenticity of the Book of Daniel, that, at the period when the seer professes to have been held captive in Babylon, Nabonadakh was actually king, not only at the date of the dream described in Daniel iv., 4-24, but also at the date when the city fell into the hands of the Medes; whereas, Belshazzar is represented in the record as having superseded Nabonadakh previous to that event. It was also certain from profane sources, that the king of Babylon was not slain, but made prisoner, during the Median conquest. Recent discoveries have not only proved that Nabonadakh was afflicted with a season of madness, as stated by Daniel, but that Belshazzar was his son,

* *Grammatica Aegyptiaca*. Erste Aulutung zum Nehersetzen altägyptischer Literaturwerke, nebst der Geschichte des Hieroglyphen-Schlüssels.

† *Lehrbuch der heiligen Geschichte*.

and, at the date of its destruction, viceroy or governor of the city, with the fall of which he fell. This fact explains how it was that Belshazzar, Daniel v., 16, promised to make the prophet third (not second) in the kingdom, if he would but make known the interpretation of the handwriting on the wall. *Ex uno disce omnes*, our limits precluding further enumeration.

In the same manner as these important discoveries rescue the Book of Daniel from mythology, Dr. Tischendorf's discovery of the long lost and oft lamented Sinaitic context of the gospels is destructive of the mythical hypothesis as applied by Strauss to the life of Jesus, and sustains the objection to that view upon which Dean Milman dwells with peculiar emphasis, namely—that the age represented by the first and second centuries was not a myth-forming age, and that the Jews as a people have no mythopæic tendencies.

Aside from the question of inspiration, therefore, to the historical critic, Jewish literature appears in the light of a literature exhibiting peculiar dynamic and psychological facts, eminently illustrative of the psychical traits of the Jewish race. Between it and the linguistic structure with which it is connected obtains a unity that is both artistic and historical, both crescent and static. In contrast with classical literature and with the most antique products of the Aryan races, the Vedas and the Avesta, the ancient literature of the Hebrews is distinguished by a strange and settled interiority of mind, united to a kind of gloomy and resolute fanaticism. Its words are not pictures, like those with which Homer had to deal, but have a curious subjective consciousness in harmony with the psychological traits from whence they sprung and to the expression of which they are so singularly adapted. Impossible as it is for the modern critic to enter into sympathetic contact with a culture so peculiar, joined to a race so persistent, he can not fail to apprehend somewhat of its tremendous force and momentum,* in the consideration that it has on-

* It is a peculiar trait of all ancient cultures that, owing to the prejudice that pervades them, they move with tremendous mental momentum in special directions. In the æsthetic arts, for instance, the

trolled and given bent to the whole structure of European culture as represented by the nineteenth century; that no skepticism has availed to destroy its vitality, and that no philosophy has been able to supplant it, while all philosophies have struggled together to offer some adequate rational solution of its indwelling spiritual facts, and, failing to solve, have given away before them. Schelling's *Philosophie der Offenbarung* and Strauss's *Leben Jesu* are alike in this respect.

Starting with Abraham, in whom this interiority first presents itself vividly, the student is able to trace its ever augmenting intensity, fostered by the conception of a destiny extending into the remote and distant, until it assumes the aspect of a family trait, and finally that of a national trait, which occurs in the days of Moses. Parallel with this conception of destiny runs, as its necessary moral exponent, a mystic faith that from generation to generation intensifies this strange tendency to interiority, which is further reinforced in intensity by what scientific men know as the system of breeding in and in. Beginning with Shem, the length of time during which this culture was in process of formation, may be calculated as follows. The table is taken from Seyfforth :

Greeks show an advance and elevation of feeling, to which modern sculpture has never approximated. They seem also not only to have originated philosophy, but to have carried it to a structural perfection which modern thinkers have emulated but not surpassed. In the Hebrew culture occurs a spiritual momentum exhibited nowhere else in the history of civilization. It is a trait of modern culture that it represents the various momenta of the ancient, working together in equilibrium more or less unstable; but its boasted superiority over the ancients, except in this attribute of universality, is more than questionable. As a method of criticism, for example, the Greeks originated induction, and were keen in their observation of facts. They were first to discover that insanity is a disease, and to treat the insane as sufferers, not as persons possessed of devils; and it is only within the present century that this method has been engrafted upon modern life. On the other hand, in the practical application of science to the material arts, and especially to labor-saving inventions, modern civilization appears to exhibit an advantage over ancient. Of railroads and steam engines ancient life offers no glimpses. On the contrary, its vast works of engineering and building put to shame our boasted scientific progress.

Noah's entrance into the ark.....3447, B. C., November 8,
Julian style.

Jews leave Egypt..... 1866, B. C., April 5, Sunday.

Encamp at Marah " " April 12, Sunday.

Enter the Desert of Sin.... " " May 20.

Receive the legislation of

Moses from Mount Sinai... " " July 8.

David begins to reign..... 1029, B. C.

Solomon ascends the throne... 989, B. C.

With which commences what may be styled the literary period of the Hebrews.*

Thus, for more than two thousand years before Solomon the Jewish culture having one central idea of destiny, and continually intensifying the psychological traits with which it set out, was in process of formation, when came its natural blossom in those weird prophetic poems that stand alone in the history of literature. Time enough here to account for

*That Genesis was in existence long enough before this period is obvious from the crudeness of its style and its antiquated philological forms. Some of its word-forms were hoar with antiquity as early as the days of Joshua; and yet it is obvious that none of it was written until after the ancient *havah*, to be, whence Jehovah, had been superseded by the softer *hayah*. Traces of *havah*, as a formative, cease to occur as early as the days of Abraham; and, from thenceforward, antiquated forms begin to disappear or to be superseded by later derivatives; though there are vestiges even in the Abrahamic Hebrew of an earlier inflection, especially of nouns, the details of which are now lost altogether. Now, language progresses by stages of evolution, at the head of which stands the period of roots, of which no family numbers more than four or five hundred. Next comes the period of agglutination, of the laws of which philology knows very little. Next ensues a period of very complicated noun inflection, which waxes simpler as civilization proceeds with the evolution of modifying adjectives; and speedily a similar complication of inflection, fold upon fold, attacks the verb, which is twisted in body and tormented with prefixes and affixes, by way of expressing that which is afterwards expressed by adverbs, prepositions, and other modifiers. As the evolution of modifiers is continued this complexity of inflection and conjugation disappears, and thus language in its higher stages of cultivation manifests a tendency to return to primitive simplicity.

permanent modifications of cerebral structure, necessary, haps, from the scientific stand-point, to develop from the tendency to interiority and the mystic faith in Jehovah destiny with which Jewish history began, the well-marked prophetic insight with which it ended. As there is no psychological trait without its physiological exponent, it is, indeed, difficult to imagine that a culture so narrow, because so narrow, therefore so tremendous in its momentum, should have persisted for so long without eventuating in a well-marked cerebral differentiation: for the facts of the Jewish history, united to the habit of breeding in it, fulfil all the conditions essential to the evolution of a special type of humanity, endowed with special aptitudes and with special spiritual traits; and if, as Strauss says, *sind Gott und Mensch an sich eins*, it is needless to look further than these apparent facts of the Hebrew culture, to account upon scientific principles for the aura that radiates from the subject of his biography.

Though generally unsatisfactory in its scientific aspects, his last volume is painfully weak nowhere except in

The Hebrew of the Book of Genesis belongs to that era of linguistic progress when the noun inflection begins to be supplanted by modification, and the verbal inflection has not yet attained the climax of conjugation. The period of agglutination has been passed, but yet vestiges of the process remain, as, for example, in the primitive *maor*, the light, from *or*, light, and in the derivation of some few proper names. These facts alone, aside from antiquations of diction and special words, evince a primitive antiquity of origin, not to be attributed to any other existing documents. But, aside from these considerations, certain Aryan words appear to be traceable to Genesis. Thus—the Greek *erchos* equals the Hebrew *erch*; the Greek *phos* is the Hebrew *pe*, *pous*, and the Hamitic *phatha*. *Mater* in Latin equals *am* in Hebrew; *pater*, *ab*, Vulcan, produces Tubal-Cain; Apollo, Jubal. Again, the Latin *olim* is equivalent to the Semitic *olm*; the Latin *ævum* and the Greek *aion*, having the digamma, are from the Semitic *havah*, to be, and the strengthened *yah*, to live. The Greek *kadmos* represents the Hebrew *kedem*, the east; the Latin *capio*, to take, refers itself to the Semitic *koph*, the hand. The Greek *hemera*, day, is the Semitic *your*; and even the Semitic *tsade* reappears, name and force, in the Teutonic *tset*.

certain assumptions drawn from the system of psychology generally designated as cerebral, in order to distinguish it from the antiquated and *a priori* system in vogue during the last century, which took no adequate note of the facts of brain anatomy, to the study of which Gall and Spurzheim gave its first impulse. In this important department the doctrines of Strauss are not in harmony with facts recently discovered, but not so recently as not to have entered to some extent into current scientific literature. Briefly condensed, his view is that of the human brain as a congeries of nerve-centres, said nerve-centres respectively representing certain mental aptitudes. Mind is composed of these aggregated aptitudes. This view expunges self-consciousness, except as the result of the succession of ideas, or of states of consciousness,* and is co-incident with that advocated so ably by John Stuart Mill, in his famous critique on Coleridge. Unfortunately for its advocates, however, the recent but now experimentally verified discovery, that the cortical surface of the cerebrum is the seat of consciousness,† is fatal to this carefully elaborated theory, since it demonstrates that the nerve-centres merely answer the purpose of co-ordinating given physical processes. Thus the cerebellar centres co-ordinate the muscles concerned in locomotion; while a nerve-centre located in the lower portion of the left anterior lobe of the cerebrum co-ordinates the muscles concerned in articulation.‡ Again, while certain great elements concerned in the configuration of the brain are constant, there is some variation in the number of the convolutions—a fact which tends to negative the pretensions of phrenology, which bases its distribution of faculties upon the constancy of these mounds of brain substance, bounded by their co-incident furrows. Indeed, this congeries of somewhat irregular convex surfaces, so far from having any special psychological significance, is now known to be the exponent of cerebral nutrition, which is deposited in

* Herbert Spencer's *Principles of Psychology*.

† Ecker's *Cerebral Convolution of Man*.

‡ Flint's *Functions of the Cerebellum*.

arcs or hillocks.* The general consequence of these facts is to reaffirm the so long denied unity of mind and to reinstate self-consciousness as the ground of all faculty, and not as a mere association in the terms of James Mill and his son and supporter. The special consequence of the same is, that the cortex of the brain may be logically regarded as the point of union between mind and organism; and thus though man is not thereby strictly enjoined to consider himself as having a soul, he may with justice maintain that he has scientific permission to have one, if he wishes. That is to say, that spirit and spontaneity are not, as Huxley† assumes, necessarily cast out by matter and law. In a general way, the discovery of these facts reinstates metaphysical studies in their old position, and enables men of thought, if they will, to mark out a really careful and profound system of psychology, by giving their proper weight and significance to introspective analysis, on the one hand, and to physiological causes on the other; a system of psychology that shall cover and offer ample verge to the profounder facts of spiritual dynamics, as the history of the Jews and the life of Jesus illustrate them, while, at the same time, elucidating and putting order into the common facts of human life; a system that shall admit the reality of the softer spiritual undertones the instrument, man, gives forth, and explain the deeper and more mystical cognition incident to what is generally styled inspiration. So important, in this respect, is the recognition of the unity of mind and of the validity of self-consciousness, that the gist of the controversy may be compressed into two sentences: *If I am, then God is, and nature is; if I am not, then nothing is.* That is to say, the whole web of spiritual life man has woven about himself, and all the sweet but indistinct spiritual undertones of life, are dreams—dreams all—nothing but dreams—If Herr Strauss is right in his travesty in his last volume of *M. Phillips*. But had he—instead of following the current

* Ecker's *Cerebral Convolutions of Man*.

† *Lay Sermons*, Dissertations on Molecular Physics.

text-books, into which the latest discoveries are never incorporated—kept record of the brief report of Dr. Ecker, and of the experiments of Professor Ferrier,* of Aberdeen University, he would scarcely have added this final blunder of mis-information in scientific matters to his many blunders in historical criticism.

Once more. How closely related to the special facts of the life of Abraham these discoveries are, is indicated by the fact that one of them unlocks the philosophy of trance, and places this hitherto obscure phenomenon upon a sound physiological basis. Long before Dr. Ecker and Professor Ferrier had conclusively proved that the cortex (gray matter) of the brain is the seat of consciousness, Dr. Maudsley, England's foremost alienist, had observed from repeated autopsy—that true insanity is always the exponent of a morbid pathology of the gray cerebral envelope, and this is his physiological definition of madness.† Experiments have also demonstrated the fact (parallel to that announced by Dr. Maudsley), that clairvoyance and trance, whether cataleptic or epileptic, are the psychological exponents of abnormal activity of the cerebral cortex, accompanied with partial or total suspension of nervous activity in the cerebro-spinal axis; furthermore, that trance may be induced by sulphuric ether and other anæsthetic agents, particularly in instances of settled interiority of mind like that which distinguishes Jewish literature. The induction from these facts may be stated as follows: Trance is a psychological phenomenon, having its physiological exponent in abnormal excitability of the cerebral cortex. The tendency to trance is hereditary, resembling other types of neurosis in this respect; but whether its transmission from generation to generation, as occurred with the Jewish prophets, is accompanied by modifications of the substance of the cortex, or by modification of functions only,

* London *Medical Record*, volume for 1873.

† *System of Medicine*, article on Insanity.

‡ Haddock's *Psychology Considered Physiologically*.

there are no special facts to indicate, although the general facts of psychological medicine imply the former so positively as to render it almost a necessary sequence. As the learned Broca has conclusively demonstrated to the members of the Anthropological Society of Paris, culture is specially influential in determining the volume and structure of the brain, particularly as respects the anterior and coronal lobes,* of which latter in the Jewish race the volume is especially large. The peculiar mental aura concerned in what is styled inspiration may, therefore, be accounted for upon strictly scientific principles.† On the other hand, whether the spiritual visions incident to this last degree of settled interiority are the exponents of actual spiritual realities, or whether they are to be treated as illusions, is a question that concerns theologians, and lies beyond the scope of scientific analysis, though superimposed upon it, within the great religious dreamland of God, the soul, destiny after death, and intervention of the supernatural.

Necessary limits preclude elaboration of the facts in hand. They are certainly destructive of the theories of Strauss, whether regarded from a metaphysical or from a scientific aspect. Men, says a clever critic, are generally right in what they affirm and wrong in what they deny. In other terms, so complex are the phenomena of life and nature, that it is folly to adopt any particular system in observing and measuring them, or to oppose barren denial to vital facts. When Strauss adopted Hegelism as an intellectual basis for his theory of life and being, he virtually tethered himself to a system that precluded candid investigation, and forced him to deny the reality of certain series of well-attested phenomena. Not

* *Revue Scientifique*, volume for 1873.

† "It is," says Dr. Bain in his last volume, "because men have something beyond the usual endowments of natural things in the possibility of storing up in three pounds' weight of a fatty and albuminous tissue, done into fine threads and corpuscles, all these complicated groupings that make our natural and acquired aptitudes, and all our knowledge."

that he consciously or deliberately accepted this position. On the contrary, his attitude was a mental habit acquired by exclusively metaphysical studies. He saw life through the spectacles of Hegel—men as trees walking. Actual observation of nature would have corrected this; but actual observation is seldom with theologians. Thus his theorizing tendency led to ghostly and unreal speculations. He played at battledore and shuttlecock with logical shadows, none the less unreasonable, because they were rational and coherent, and having no vital sympathy with the facts they sought to explain. He knew nothing of life as it is, of its strong endeavor, of its passionate struggle after the good and the beautiful, of the mystic faith that struggle begets, and of which it is the exponent; but he knew a great deal of life as Hegel thought it was. Vast and vague generalizations were present in the books he read and in the mental atmosphere that surrounded him. These were his nutrition; and where a more profound intellect would have questioned, or a more scientific mind would have sought to verify, he accepted without applying the necessary tests. Hence, controlled as he was by certain metaphysical forms of thought, the scientific attitude, with its passion for observing at first hand and its wariness of generalizing, was impossible to him; and in so far as he seemed to be scientific in exegesis, he but repeated Baur, Ewald and others that preceded him. Thus his exegetical criticisms are many of them monuments of ingenuity; but, invariably setting out with the intention of coming to a given conclusion, they lack the candid honesty that distinguishes really scientific inquiry. For example, in applying the scientific method to the miracles recorded in the New Testament, it is necessary to ascertain whether the writers actually witnessed the phenomena, whether they were competent observers, and whether they were men of veracity. The first question to be settled is purely a question of fact. Explanation comes afterwards. Strauss reversed this method, and was hence unscientific in his attitude. Again, when the great scientific hypotheses of Spencer and Darwin were promulgated, his attitude was equally



unscientific. The psychology of the one, and the vast biological speculations of the other, he seems—to judge from his last book—to have accepted without test and without verification, the more implicitly, perhaps, because they were parallel with Hegel's system. Then comes the abstruse speculations of Huxley and Helmschadtz in the direction of molecular physics, and supplies the basis for his *Universum* as a substitute for the unconscious *Gott* in vogue in old days at Berlin. Thus the barren materialism of his last elaborate work is parallel with the barren idealism of his first.

ART V.—1. *Geology, Introductory, Descriptive, and Practical*
By D. T. ANSTED, M. A., F. R. S., F. G. S. 2 vols. 1844.

2. *Memoires de la Societè Geologique de France.*

3. *The World before the Deluge.* By L. FIGUIER. Revised by
H. W. Bristow, F. R. S. 1 vol. 8vo. New York.

4. *Manual of Geology.* By JAMES D. DANA, LL. D. 1 vol.
8vo., 800 pp. New York.

THE ability to interpret correctly all, or even a considerable part of the phenomena of nature, implies a high order of development of those faculties in the mind of man, which pre-eminently distinguish the true natural philosopher, and raise him above the common investigator of the laws and operations of the material world. Minds of such a character usually bring about new eras in the progress of science, during which great advances are made, and the domain of the mind in the natural world is vastly extended. Among the moderns we may mention Galileo, Kepler, Newton, Harvey, Humboldt, Thomas Young, and Lyell, as possessing minds of this character. Hypothesis is often substituted for an attentive examination of nature's phenomena, and the

mind of the investigator warps the facts which are observed, and makes them tell what they do not mean. Not unfrequently conclusions are too hastily drawn—drawn from an insufficient number of facts, and the progress of true knowledge seems to be retarded rather than advanced. We say that the progress of science *seems* to be retarded, for in reality it is not, because the agitation of thought on any subject, however erroneous the views entertained by the investigator may be, can but have a beneficial influence on the extension of real knowledge.

There was an opinion formerly entertained, and perhaps not wholly discarded yet, that, with slight exceptions, terrestrial climate has been gradually refrigerated, reckoning from the earliest geological formations of the earth's crust. This conclusion was based on the existence of the remains of plants and animals in the earth's strata, in what are now temperate latitudes, the development of which seems to have required a tropical climate. In addition to this evidence, the rocky part of the earth's crust showed evident signs of having been wholly or in part subject to intense heat, which condition was thought to have been a result of the primitive molten state of the whole earth. Starting with this hypothesis, the geologist conceived that the radiation of heat from the interior of the earth—which, until recently, was supposed to be in a melted condition—produced a warm climate, probably over the whole surface of the globe, corresponding to the present tropical climate of the earth. The amount of heat which the surface of the earth would derive from the interior, in a given limited period of time, would thus gradually grow less and less, as the earth gradually parted with its primitive heat.

Although the views of geologists have undergone a change in respect to the condition of things as they relate to the present crust of the earth, the belief in rapid changes and much more powerful causes in early periods of the earth's physical history than at present exist, being less general than formerly; yet there is not much doubt that the surface temperature of the earth has been increased by heat derived from

the interior; for experiments have shown that even in our own time a considerable amount is radiated away into space.* This being the case, the earth must be gradually growing colder, for the solar heat does not penetrate very far into the earth's strata,† and it cannot be the source of the inherent temperature of the globe. Since the heat of the earth must have formerly been greater than at present, this inherent heat would raise the surface temperature somewhat, but, probably, not very much, unless we carry our ideas back to a very early period.

The idea that the climate of the earth was once much colder than at present has rather forced itself upon the minds of geologists than been willingly accepted. For some time the phenomena of the drift period in geological history were in a great measure a stumbling block to inquirers, and served rather to tell us how little we knew of geological causes than how much. The general appearances pointed to a wide-spread and powerful cause, but just what that cause could be was uncertain—at least there was no general agreement among physical geologists. The careful study of existing glaciers, however, and their attendant phenomena, suggested to the mind the fact that the phenomena of drift‡ could be explained by the action of glaciers. In 1837 the late M. Agassiz promulgated what is known as the glacier theory, and by means of it geologists have been able to explain in a satisfactory manner a large part, if not the whole, of the appearances presented by the drift period.

Having thus reduced the causes which produced the drift to the action of extinct glaciers, which seem to have nearly or quite covered the land in temperate and polar latitudes, their existence could only be accounted for by supposing the climate immediately (geologically speaking) preceding, and during the drift period, to have been much colder than the present. Since the climate of the earlier geological periods

* Am. Jour. Sci., [3] vol. v., p. 220.

† See N. Q. R., No. LII., p. 358.

‡ N. Q. R., No. LV., p. 56.

was certainly as warm as the present, and very probably much warmer, we conclude that there exist in nature causes sufficiently powerful to produce alternately climates which we regard as warm and cold. The glacial climate, or the climate which gave rise to the extensive existence of glaciers, both valley and continental—a climate which immediately preceded the present, and, indeed, of which the present may be considered as the remnant—may be but the repetition of an older glacial climate, though at present we have not much evidence that such is the fact.

As to the climate that prevailed previously to the glacial climate, we may state that Miocene (one of the divisions of the Tertiary period*) fossil flora, which could have grown only in a mild climate, have been found as far north as Iceland, Greenland, and even Spitzbergen. Lyell, in speaking of these, says that “such a vigorous growth of fossil trees in a country within 12° of the pole, where there are now scarcely any shrubs except a dwarf willow, and where there are only a few herbaceous and cryptogamous plants, most of the surface being covered with snow and ice, is truly remarkable.” †

In previous numbers of this journal‡ we have given a brief history of the progress of geological theories, and have shown that in most cases the effort has been made to account for geological phenomena by means of sudden changes and revolutions, preceded and followed by periods of repose. The same disposition of the human mind has hitherto sought to account for the phenomena which attended the glacial climate. We have, however, no direct evidence of sudden catastrophes in geological history, except on a very limited scale, such as are produced by volcanoes and earthquakes.

* If we commence at the surface in any place where the geological series of rocks is complete, we should find in order downward the Recent and the Post-Pliocene, forming the Post-Tertiary; the Newer Pliocene, the older Pliocene; the Upper Miocene, and the Lower Miocene; and the Upper, Middle, and Lower Eocene, forming the Tertiary period.

† *Principles of Geol.* vol. i, p. 202.

‡ See Nos. XLIII. and LII.

Since, so far as we can see, there is plenty of time in nature to accomplish all the changes which we see have taken place in the earth's crust, even if we admit only such causes as are now in operation, we are in duty bound, as true philosophers of nature, to call to our assistance no more powerful forces, unless we have the most irrefragable testimony that they have actually been in operation. Having assured ourselves that there once existed what may properly be called a glacial climate, our next object must be to account for it in a rational manner. Proofs of the present existence of glaciers, and of the former more extensive existence of them—which required a much colder climate than the present—have already been given in this journal;* and further evidence of a colder climate will be given in the sequel of this paper.

The causes of a glacial climate may be divided into two general classes: astronomical and geographical. Since the sun is known to be an immense globe of fire, and almost certainly decreasing in temperature, at least radiating into space a constantly decreasing amount of heat, we might conclude that the sun, in former ages, would itself be the cause of a warmer climate, but no such cause can be assigned as the cause of the glacial climate, since our present climate is warmer than that which formerly existed. We must therefore seek other astronomical conditions which would be favorable to a colder climate.

Among the causes independent of the direct calorific power of the solar rays, which modify climates, we may mention the inclination of the earth's axis to the plane of its orbit. This arrangement in nature gives rise to summer and winter, spring and autumn, in the temperate zones. Such species of vegetation as are adapted by their nature to active life and growth in the warm season of the year, while in the cold season they are nearly or quite dormant, retaining only a potential vitality, would flourish in regions where the mean annual temperature is comparatively low, if the mean summer temperature,

* No. LV., Art. II.

or the temperature of the growing season be sufficiently high for their development. Annual plants, whose seeds could be matured and remain uninjured through the winter, would also flourish in such climates. Any change which would diminish the inclination of the earth's axis, or increase the obliquity of the ecliptic, would correspondingly influence the geographical limits of such vegetation as has a periodical growth. A contrary change would produce a contrary effect.

Not only vegetable life but animal life also would be influenced by the same astronomical cause. Those animals which are confined, or nearly confined, to the spot where they live, must be adapted to the mean animal temperature of the element in which and where they live. Migratory animals, or such as go in polar directions during the warm season of the year, to find food, and probably for greater physical comfort, would extend their excursions to a considerable distance, perhaps, and occasionally they might be overtaken by sudden cold, and die in those regions where the mean annual temperature is much below that required for their continued existence. The remains of such animals would afterwards be found in the high latitudes where it might at first be concluded that the climate was once adapted to their existence.

The accumulation of ice and snow from year to year would be influenced by the same causes. That is, there would be a limit, where, as a rule, all the snow and ice that accumulate during the cold season would be melted away during the warm season. Beyond such a limit the snow and ice would gradually increase in quantity from year to year; and if the surface should slope towards the equatorial regions, glaciers which would in this way be formed* would gradually move towards warmer latitudes. The diminution of the obliquity of the ecliptic would cause the mean annual temperature to decrease,

* N. Q. R., No. LV., Art. II.

• † Meech, *On the Relative Intensity of the Heat and Light of the Sun upon Different Latitudes of the Earth*. Smithsonian Contributions to Knowledge, p. 37. According to Meech, 10,000 years ago the poles received 20 rays where they receive only 19 now. (p. 37.)

and thus the snow and ice of the arctic and the antarctic regions would be slowly extended towards the equatorial regions.

The obliquity of the ecliptic, owing to change in the position of the plane of the earth's orbit, is constantly diminishing at the average rate of about thirty-seven seconds of arc in a century, and it has been diminishing for many centuries. It is increasing at a constantly accelerated rate, being about forty-eight seconds a century at present, but eight thousand years ago it diminished at the rate of only thirteen seconds in a century.* According to Stockwell's investigations the obliquity of the ecliptic will always be confined within the limits $24^{\circ} 5' 58''$, and $21^{\circ} 58' 36''$, the whole variation amounting to $3^{\circ} 37' 22''$. We may hence conclude that from this cause alone the change of climate could not be very considerable. So far as there has been a change, for several thousand years past the influence has been to gradually produce a colder climate north and south of about 50° of latitude.†

Another astronomical cause of change is the secular variation of the eccentricity of the earth's orbit. At present the earth is about three million miles nearer the sun about the first of January than it is about the first of July. There was a time when the earth's orbit was practically a circle; and also a time when the greatest distance of the earth from the sun exceeded the least distance by about thirteen million miles, or rather more than four times its present amount.

According to a law first given by Lambert in his *Pyrometry*, the amount of heat received by the earth from the sun, in any given time, is exactly proportional to the angle described by the earth in that time, or the longitude passed over in the interval, the elements of the orbit remaining the same during the time; but if the whole orbit be considered, and the eccentricity be supposed variable, the amount received is inversely proportional to the minor axis of the orbit. The researches

* Stockwell's *Secular Variations of the Orbits of the Planets*, p. 196. Smith cont. to Knowledge.

† Meech, p. 97.

of mathematicians in physical astronomy have proved that the major axis of the planetary orbits are subject to no changes but those of a periodical character.*

We therefore conclude that, since the minor axis (or eccentricity) of the earth's orbit is subject to a secular variation, the amount of heat received by the earth during a year is subject to a secular variation. At present the eccentricity of the earth's orbit is diminishing, and it has been diminishing for great many centuries; that is, the minor axis of the orbit is increasing, and, according to the law above given, the annual amount of heat which the earth derives from the sun is gradually diminishing. Although the amount of heat which the earth yearly derives from the sun is at present less than it was when the eccentricity of the orbit was considerably greater, yet a combination of circumstances in times past may have caused an accumulation, so to speak, of cold in the same region of the earth during many ages, and in this way important changes might be produced. Thus, owing to the precession of the equinoxes, the revolution of the major axis of the earth's orbit, and the variation of the eccentricity of the earth's orbit, there was a time when the eccentricity was large, and the major axis passed through the solstices, and the consequence was that the summer of one hemisphere of the earth took place when the earth was farthest from the sun, and the winter when it was nearest. There would, therefore, be a long cool summer and short warm winter. At present we are having very nearly such a combination of causes, except the large eccentricity of the earth's orbit. Our summer in the northern hemisphere is about seven and three-fourths days longer than our winter, reckoning from equinox to equinox. There was a time at some period in the past when the eccentricity was at or near its maximum, and the major axis coincided with the solstices. When this occurred, the difference between the length of summer and winter in the two hemispheres was equal to thirty-two and a half days.† That these causes had

* N. Q. R., No. LI., p. 78.

† Stockwell's *Memoir*, p. 13.

an influence on the climate in the two hemispheres of the earth in those ancient periods is quite certain, but just how, and to what extent, it is more difficult to decide.

According to Lambert's law before given, the amount of heat received by the earth from the sun is the same when the sun is north of the equinoctial line as when it is south; or, in other words, the greater time during which the sun is on one side just compensates for the nearer approach on the other. If we consider only one hemisphere of the earth, as for instance the northern, and suppose its summer to occur in that part of the orbit in which the sun is at its greatest distance, there would be a long cool summer, and a short warm winter; for, notwithstanding the longer time of exposure, the heat cannot accumulate to any great extent, since there is a correspondingly greater time for the heat to be radiated away. It is generally supposed that the glacial climate of a hemisphere occurred while the summer of that hemisphere happened in perihelion. There are several reasons, however, for concluding that the reverse was actually the case.

It has already been shown that, although glaciers may extend far below the snow-line, or the line of perpetual congelation, yet the source of glaciers is the snow that accumulates above that line.* Any cause that tends to lower the snow-line will, as a general thing, increase the extent of glaciers and extend their influence. Now, other things being equal, the height of the snow-line is determined by the summer temperature, and not by the winter. A summer whose mean temperature is comparatively low would, therefore, cause the snow-line to descend; a succession of such summers would cause the glaciers to be extended, and the amount of the extension would depend on the coolness of the summer. If, therefore, the eccentricity of the earth's orbit were large, at the same time that the summer of either the northern or the southern hemisphere of the earth occurred in aphelion, the snow-line would be lowered, and glaciers and glacio-aquean

* N. Q. R., No. LV., Art. II.

action would be extended in that hemisphere. The temperature decreases about three degrees Fahr. for every thousand feet of elevation; so that a decrease in the mean summer temperature of three degrees would cause the snow-line to descend a thousand feet. We hence conclude that the temperature would not have to decrease very many degrees to send the glaciers down into those regions which are now entirely free from them.

But a decrease of temperature is not the only cause which lowers the snow-line, for the position of this line is determined both by the mean temperature and the amount of snow that falls. The height which gives a temperature of 32° , or that of freezing water in the hottest month, is not that of the snow-line. In most cases that of the former is considerably above that of the latter, but in others the latter is the higher. In the Andes, near Quito, the height of the snow-line is 15,795 feet, and the height of the line of 32° is 14,175 feet. In the Himalayas the snow-line on the south side descends 3,000 feet lower than on the north side.* These differences are to be explained by the amount of snow that falls. Those localities which are favorably situated for the condensation of aqueous vapor, and especially where the atmosphere is loaded with it, will necessarily have a considerable snow-fall. Of course it will require a greater amount of heat to melt a large body of snow than it will to melt a smaller amount.

The opposite hemisphere to that which we have been considering would have a long cold winter, but a short hot summer, which would be favorable to evaporation; and by a circulation of the atmosphere from one hemisphere to the other, the vapor thus raised in one hemisphere, during its summer, would be precipitated in the other one, during its winter. The principal difficulty here is to account philosophically for the circulation of the atmosphere from one hemisphere to the other. We have some facts which prove the existence of the circulation referred to. There is consider-

* Somerville's *Phys. Geog.*, p. 297.

ably more water in the southern hemisphere than in the northern, and we might suppose that more vapor would be precipitated in that hemisphere than in the northern, but such does not appear to be the case. According to theory, atmospheric circulation in one hemisphere takes place in a great measure independently of the circulation in the other hemisphere; still some portion of the atmosphere passes from one hemisphere to the other. So far as we are aware, the above theory of a glacial climate was first proposed by Joseph J. Murphy, F. G. S.*

The present relation of the line of apsides, or the major axis of the earth's orbit, to the solstitial points, is favorable to a glacial climate in the northern hemisphere (for, according to the above theory, only one hemisphere could have a glacial climate at one time), if the eccentricity of the orbit were large. We must, therefore, seek for a period when the eccentricity of the earth's orbit was large, and the other conditions were favorable to a cold summer climate in one hemisphere. The eccentricity has been computed by Mr. Stone and by Mr. Croll, by the aid of Leverrier's formula, and by Mr. Stockwell,† by means of his own formula. According to these calculations, about 100,000 years ago there was a considerable eccentricity, so that the difference between the greatest and the least distance of the earth from the sun amounted to about 8,500,000 miles; and at about that period the major axis of the earth's orbit coincided with the solstices. At that period the cool summer was in the northern hemisphere. About 200,000 years ago there was a still larger eccentricity, causing the distance of the sun from the earth to vary as much as 10,000,000 miles, and the other conditions were the same.‡ We have now explained the astronomical conditions which are favorable to a glacial climate, and have indicated two periods in the past when there was probably a

* *Quart. Jour. Geol. Soc.*, xxv., p. 150, 1869.

† See Lyell's *Prin. Geology*, vol. i., chap. xiii., eleventh edition.

‡ *Secular Var. of Planets' Orbits and Secular Equation of the Moon's Mean Motion*, 1872 and 1887.

cool summer climate in the northern hemisphere. Notwithstanding these apparently favorable astronomical conditions, we are inclined to think that the principal cause of the glacial period must be sought in the earth itself—in the relative positions and extent of the land and water. We shall now briefly explain what these geographical conditions are. We must premise, however, that both astronomical and geographical conditions must be taken into consideration in our attempt to give a rational explanation of the glacial period.

The fact that geologists have not recognized more than one glacial period is a proof that astronomical conditions alone do not control the causes of a glacial climate. The geographical distribution of land and water must, therefore, have much to do in modifying the heat and cold of a region of country. The distribution of fossils in the earth's strata has revealed the fact, that, as a rule, what is now dry land was once the bed of the ocean, and what is now the bed of the ocean was once, very probably, dry land. Changes of this kind are now constantly going forward. In one part of the globe land is rising, in another it is subsiding; in one place land is worn away by the waves and currents of the ocean, and in another it is constantly being formed. These changes, though apparently slow, will ultimately so modify the forms and relative positions of the continents and the larger islands as to completely alter the geographical conformation of the surface features of our globe. The gradual rise of land at one period, and its subsidence at another, are wonderful phenomena in nature, and such as we cannot fully comprehend.

Owing to the position of the earth's axis with respect to the plane of its orbit, about forty-seven degrees of the equatorial parts of the globe—the torrid zone—have, during some part of the year, a vertical sun; and those parts bordering on this zone are also much heated in the summer season of those parts, and they do not become much cooled during the winter. The land of the torrid zone and the parts bordering on it absorb much heat, which it retains to a considerable

degree, and warms the air in contact with it, and by the motions of the atmosphere this tropical heat is conveyed to other and distant regions of the globe. The greater heat of the equatorial regions causes the air to expand and rise up, and thus the heat is conserved and carried towards the polar regions, where the increased force of gravity condenses it and thus liberates the heat derived from the tropical regions.

The land is immobile and its heat must be conveyed by the atmosphere; the water, on the other hand, is itself mobile, and the warmth which the ocean between the tropics derives from the solar rays is carried by oceanic currents towards the polar regions, there to modify the climate of the temperate and polar zones, and convert a rigorous climate into a moderate one. Thus the Gulf stream, which is a warm oceanic current flowing from the Gulf of Mexico, in a north-easterly direction, so warms up the western and northern coasts of Europe as to produce a comparatively warm climate in those parts. We know, also, that the western coast of North America is rendered much warmer by oceanic currents than it would be without them; while the eastern coast is rendered colder by the cold northerly current which flows through Davis' Straits, and along the eastern shore of North America.

Suppose, now, on the other hand, that, instead of a large body of equatorial land, there was a large body of polar land, and let us add, at a considerable average height above the level of the sea. There would be no tropical sun to warm it up, but instead, the naturally intense cold of those regions would cause the land to part with its heat—whatever it might naturally possess or derive from the sun during the small portions of the year that it would be possible for it to do so—to such a degree that the snow-line would be carried a considerable distance toward the equator. The elevated land which we have supposed to exist in the polar regions, actually does exist there, only not in so large quantities as the glacial climate of the Tertiary period calls for. Such elevated land becomes a great reservoir of ice and snow, condenses the vapor contained in the atmosphere, and de-

prives it of its warmth, and communicates its cold to the adjoining country.

Since we have supposed the equatorial lands to be much less in extent than at present, the space would be occupied by water, which does not become so highly heated as the land, since a large part of the heat derived from the sun is employed in converting a portion of the water into vapor. The vapor is carried by aerial currents towards the poles, and condensed and falls in the form of rain or snow. This process liberates the latent heat of the vapor, and in this way tropical heat is carried to temperate and colder latitudes. Moist tropical land, which would become much more heated than the ocean, would furnish vapor for the atmospheric currents to convey north and south, and thus such a geographical arrangement would be more favorable to a warm climate in polar latitudes, than a greater preponderance of equatorial ocean. Besides, the conformation of the land has much to do in directing the currents of the ocean. The warm equatorial waters are forced into the Gulf of Mexico, and the form of the coast and the island of Cuba give it a direction northward, and the rotation of the earth gives it an easterly course, and it is thus carried towards the continent of Europe. Without discussing this subject in its full extent, which would occupy much more space than we have to spare, it will be seen that the physical geography of the globe must have had much to do in causing the glacial period.

The influence of the glacial era on organic existence was no less marked than that on the surface features of the globe. The seas must have been gradually chilled as the glaciers descended towards the south in the northern hemisphere, and such marine animals as live in water of a mild temperature either died out or moved to warmer seas, and their place was taken by more northern species. The remains of arctic shell-fish are now found in Great Britain and in other parts of Europe, at present enjoying a mild climate. It is related that some years ago, Smith, an English geologist, went to London with a collection of shells, and laid them before

the proper authority on such matters in the British Museum, and asked him to pronounce on their value and import. "My dear sir," said the director, after a cursory examination of them, "you have been taken in by some whale fisher; these are muscles which have been picked up on the shores of the Arctic Ocean, but they are in bad condition, weather-worn, and in part broken to pieces, and are at best only fit to be thrown into the street." "I did not buy the shells," said Smith; "I collected them myself from a stratum of argillaceous earth on the banks of the Clyde, in Scotland, where they form an ancient sea-beach." These facts are of great value to the geologist, but they are less interesting to the general reader than such as pertain to the larger animals of an arctic character, which inhabited, during the glacial period, what are now regions having a mild climate; and such others as appear to have been overtaken by the intense cold, and destroyed by the rigors of the icy climate.

At the beginning of the post-tertiary or quaternary period in middle Europe, or perhaps before, the reindeer made its appearance there. Its remains are now found in great abundance in the caves and other sites where primitive man dwelt—for man was a contemporary of the reindeer and the mammoth in Europe;—but as the ice and snow gradually disappeared, and the climate became warmer, the reindeer moved northward, so as to continue in a climate more adapted to its nature. Besides the reindeer, there existed in Europe about that period the gigantic cat of the caves—either a lion or a tiger, and it is difficult to determine which—the cave hyena, the auroch, or the European bison, which is not yet entirely extinct; the great ox (*Bos primigenius*), which was widely extended over Europe; and the musk ox, and the horse.

Besides the animals to which we have referred, there existed both the rhinoceros and the elephant, species different from those living now. The tichorrhine (*Rhinoceros tichorrhinus*), or Siberian rhinoceros, was found in 1772, by Pallas, on the banks of the Wiljui, a tributary of the Lena, in Siberia, in latitude

64 degrees north. The cold in this region is very intense, and the carcass was very well preserved. It was taken from the sand, where it must have been frozen for many centuries; at least, it is the general opinion that such must have been the case. The soil in this region remains frozen throughout the year to a great depth, except a thin layer on the surface, which thaws during the warm season. Some putrid flesh yet remained, and part of the skin retained its covering, which consisted of short crisp wool with black and gray hairs. The animal was nearly twelve feet long. The eye-lids and eye-lashes had not entirely decayed. The horn was absent.

This individual was considerably different from existing species, especially in the form of the head. The hair was short on the face, and it was firmly fixed in the pores of the skin, where it grew in tufts. The black hair was larger and stiffer than the rest. The skin of the legs also retained some of its hair, which was from one to three-twelfths of an inch long, and much more abundant than is found on the living species.

The extinct rhinoceros was widely distributed over the northern hemisphere of the eastern continent. One horn has been found which was nearly three feet in length, and it must have been a formidable weapon when used by the wonderful power of its possessor. Professor Brandt, of St. Petersburg, was so fortunate as to extract from the cavities in the molar teeth of the animal, found by Pallas, "a small quantity of its half-chewed food, among which fragments of pine leaves, one-half of the seed of a polygonaceous plant, and very minute portions of wood with porous cells (or small fragments of coniferous wood) were still recognizable."†

The mammoth or fossil elephant has, perhaps, attracted as much attention, and given rise to as much discussion as any single animal which existed in post-tertiary times. This has grown out of the great size of the animal, and the former belief that it properly belonged to a warm element, and that

† Letter to A. Von Humboldt, 1846.

could not live in a country so cold as Siberia now is. This huge animal ranged over a wide extent of territory in Europe, Asia, and America.

Some of the remains of the mammoth which were at first found were supposed to belong to giants from twenty to thirty feet high. When it became known that these fossil bones belonged to the elephants, it was at first thought that they were introduced into Europe by the hand of man. It was supposed that Hannibal carried them to France, and the Romans to Germany. Pallas first gave a systematic description of the mammoth; Dr. Blumenbach named it *Elephas primigenius*; and Dr. Falconer showed that it was different from three other species with which it had been confounded. The remains are found in great abundance in the basins of rivers which have become extinct, or along the margins of rivers which still discharge their waters into the sea.

In England and Wales the remains of the mammoth are a very common fossil. In Scotland, however, they are comparatively rare, which may be explained by the former existence of glaciers there. The remains have been found in Ireland, but they are not numerous. These islands must have been united to the mainland during the era of these large quadrupeds in Europe.

The fossil remains of the mammoth in Great Britain are found in various stages of decay, and in general the gelatine has disappeared. In a few cases, however, both in England and Scotland, the ivory of the tusks is sufficiently well preserved to be useful to the ivory turners. In Italy mammoth remains have been found in volcanic gravel beds, from which we learn that they inhabited that region when the volcanic vents there were yet active.

In Germany these fossils are very abundant. In 1816, near Constadt on the Necker, no less than thirteen tusks and several molar teeth were found heaped together. During the same year, at the village of Thiede, a few miles to the south of Brunswick, eleven tusks were found within a small space, one of them having the enormous length of fourteen and three quarters feet, and another eleven.

But the great storehouse of fossil ivory, and the other remains of the mammoth, is found in the northern part of Siberia. Its remains, however, in the northern and eastern part of European Russia, are very abundant, being buried in the auriferous gravels of the Ural mountains,* where it must have lived while these gravels were depositing.

In Siberia the ivory is so abundant, the tusks are so numerous, that we may speak of them as practically inexhaustible. The cold is so intense in that desolate region that the fossils have suffered but little decay. These tusks have been an article of trade to the Jakuti and the Tungusians from time immemorial. These facts teach us that the mammoth must have roamed over that region ages ago, in countless herds, and lived and died there, as we are now able to show. That they may have gone there during the warm season of the year, as supposed by Lyell, in search of food—their home being farther south—is possible, but that they all did, is not probable. As we advance towards the north, it is said that the remains are less large and heavy, but they increase in abundance. On the Lachon Islands the tusks are observed to be fresher and whiter than they are on the main land. A sand-bank on the western side of one of these islands, after a long continuance of easterly winds, which washed a great supply of bones on shore, seemed to be a great storehouse of the fossils.*

The history of the carcass of the mammoth, which was discovered in the latter part of the summer of 1799 is full of interest, as showing how these monsters sometimes died and were then preserved, perhaps for thousands of years. As to the length of time during which the carcasses of mammoths have been preserved in Siberia, we are generally disposed to regard it as very great, but on this subject we are quite poorly informed. The recent report that a live mammoth had actually been seen in the northern part of Siberia, although there may be no truth in the story, is quite likely to lead us

* *Geology of Russia in Europe*, p. 492.

† Wrangel's *Siberia and Polar Sea*. Trans. by Gen. Sabine. Introduced - pp. 132, 133.

to think that that animal has not been extinct there so long as has generally been supposed. Some facts which we shall presently give will also tend to show that that northern and inhospitable region was, and may be still, the home of the mammoth. The prevailing opinion has been that several thousand years back Siberia possessed a warm climate, but some sudden catastrophe converted it into an arctic climate, and destroyed those large quadrupeds which were so unfortunate as to be traversing those regions at the time. Some such view as this was entertained by Baron Cuvier and Dr. Buckland. That Siberia once enjoyed a warmer climate seems to be certain, for birch trees are found buried in the sand north of the 75th parallel of latitude, and the first trees of the kind now existing are found three degrees farther south, and there they only attain the size of shrubs. The change of climate has probably been gradual, not sudden in any sense of the word; at any rate, we must not assume such sudden changes to have taken place, so long as we have no positive facts to substantiate such things.

That some particular locality may have been visited by sudden cold we may reasonably infer, since we now experience such changes in our warmer latitudes. A mammoth which had become mired—as it is certain that they often did—to such a depth in the mud that it could not extricate itself; or one which had broken through some frozen crust on which the animal had ventured, where the strength of it was not equal to the great weight of the beast, might thus be suddenly frozen in and afterwards overwhelmed by sand and water, and thus effectually buried beyond the reach of the short summers, for many ages.

A Tungusian fisherman who was in the habit of collecting furs for sale, from among the blocks of ice and the rubbish which had fallen from the cliffs, discovered in the latter part of the summer of 1799, on the banks of Lake Oncoul, near the mouth of the Lena river, a mass of unusual form, projecting from the cliff, and the nature of which he could not then determine. The next year being again at the same place, he

saw that the rather shapeless object was partly disengaged, presenting two projecting parts. When he visited the same locality again, near the end of the summer of 1801, he was not a little surprised to see that it presented one whole side of a huge animal having two large tusks, one of which projected from the ice. The summer of 1802 was too cold to produce any observable effect. The next year, however, was more favorable, and the ice so far thawed that the carcass tumbled to the base of the cliff and lodged on a bank of sand. In the month of March, 1804, the fisherman cut off the tusks, which he sold for fifty roubles. This might have been the end of this interesting specimen of natural history, had it not been for the industry of Mr. Adams, an employé of the Court of Russia, who traversed those desolate regions in 1806.*

Mr. Adams has left us a very interesting account of the history of this mammoth, only the substance of which we give. He found the mammoth still in the place where it had fallen, but much mutilated. The Jakuti of the neighborhood had cut off the flesh for their dogs; and, during a scarcity of provisions, wild animals, such as white bears, wolves and foxes, had also fed upon it. The flesh had in this way been nearly cleared from the bones, leaving a nearly perfect skeleton except one fore-leg. "The head was covered with a dry skin; one of the ears, well preserved, was furnished with a tuft of hairs." This immense mass was transported to St. Petersburg, 7,330 miles. The skeleton was put up in the Museum of Natural History in that city. The eyes were preserved and the pupil of one of them could be distinguished.

The animal was a male, and it had a long mane on its neck. The skin, of which three-fourths were preserved, was of a dark gray color, covered with reddish wool and black hairs. The carcass was nine feet four inches high, and sixteen feet four inches long, exclusive of the tusks, which measured nine and a half feet along the curve. The two tusks

* Is it possible that this carcass was elevated with the land since the animal died?

together weighed three hundred and sixty pounds, and the head alone four hundred and fourteen. The hair consisted of two kinds, common hair and bristles. It was thick-set on the skin, and curly. Some of the bristles were eighteen inches long.

We learn from this specimen of the mammoth, so fortunately preserved, that those animals were well protected against the cold, and hence adapted to live in a cold climate. The food of this mammoth was probably twigs, and the foliage of trees that grew in that region, together with such softer kind of vegetation as it could find.

The discoveries made in 1843 by the distinguished Russian naturalist, Dr. Middendorf, are still more interesting in relation to their bearing on the climate of the mammoth period. One of these quadrupeds was found on the Tas, between the Obi and the Yenesei, in latitude $66^{\circ} 30'$, or near the Arctic circle.* Some parts of the flesh were so well preserved that the ball of the eye is now preserved in the Museum of Moscow. Two other carcasses, one of which was that of a young individual of the same species, were also found in latitude $75^{\circ} 15'$ north, near the Tainyr river, the flesh being much decayed. They were buried in strata of clay and sand, with erratic blocks, at a height of fifteen feet above the level of the sea. In the same place Dr. Middendorf saw the trunk of a larch-tree, which is the same kind of wood that is now carried down by the river to the Arctic Ocean. Marine shells of living northern species were also associated in the same deposit. These shells are characteristic of the glacial deposits in Scotland.†

In 1866 many skeletons of mammoths were found in the flat country near the mouths of the Yenesei, between the parallels of 70° and 75° . These skeletons retained the skin and hair. In 1869-70 Von Maydell made an exploring expedition, under the direction of the Academy of St. Petersburg, to the river Indigirka, to examine some remains reported to

* *Journal du Nord*, 1807, St. Petersburg.

† Lyell's *Prin. Geol.*, vol. i., p. 183.

have been discovered there. He found the skin, hair, and bones there, and in one place a perfect skull was dug up. But the most interesting discovery in that region was that made by Benkendorf, a Russian engineer, in 1846, during a survey of the coast off the Lena and the Indigirka. The iron steamer was directed up the latter river, which was much swollen by heavy rains. During that year there was unusually warm weather in Siberia. The rains in more southern latitudes caused the rivers which flow towards the north to pour immense quantities of this warmer water into the Arctic Ocean, and on its course it carried not only ice to the sea, but even large tracts of land, which the warm water thawed. After passing up the river some distance, which had abandoned the old channel for a new one, cut through the soil by the rush of waters, the engineer's attention was called to a shapeless mass which alternately rose and sank in the water. It was soon discovered to be a large mammoth with long tusks and trunk, the latter moved about by the running water. With ropes and chains it was secured, while its hind legs were yet fast in the frozen ground. In the course of twenty-four hours it was loosened by the water, and by great exertions the immense carcass was drawn on shore and rolled twelve feet back.

This mammoth was well covered with thick fur. It was about thirteen feet in height, and fifteen in length. The tusks were eight feet long, and the trunk six. The legs were a foot and a half in diameter. The tail was naked except a tuft of hair on the end. The animal had been in good keeping, and death seemed to have overtaken it in the prime of life. Owing to the encroachments of the stream, they were obliged to work lively. The tusks were secured, and an effort made to cut off the head, but it was slow work. When the belly was cut open the intestines rolled out, causing a smell so dreadful that Benkendorf was obliged to turn away. He had the stomach carried to him and he examined its contents. They consisted of young shoots of fir and pine, and a quantity of young fir cones, chewed and mixed with the

Knass. "The giant was well protected against the cold," says Benkendorf. "The whole appearance of the animal was fearfully strange and wild. Its shape was different from that of our present elephant. As compared with the Indian elephant, its head was rough, the brain-case low and narrow, but the trunk and mouth were much larger. The teeth were very powerful. Our elephant is an awkward animal; but compared with this mammoth, it is like an Arabian steed compared to a coarse, ugly dray horse."* The rise of water carried away the carcass, before the examination was complete, and it must finally have reached the Arctic Ocean, where thousands of others have probably been buried. The existence of the numerous bones on and around Lachon Islands, to which we have already referred, may be explained in this way, since they lie off the mouth of the Lena river.

The food which was contained in the stomach of this mammoth proves that it fed on the vegetation which grows now in the woods which border the low and desolate region where it was found. From this we conclude that the Siberian climate in that region was not very different then from what it is now. The animal must have mired and frozen in the spot where it was found; and being covered with frozen mud and sand, it was thus protected from the decomposing effect of the air and the water. A thorough exploration of the northern part of Siberia would probably entirely settle the question of the climate of the mammoth.

* *Siberische Reise. Band iv. Erste Lieferung: Die Thierwelt Sibiriens.* By Dr. A. Von Middendorf, St. Petersburg, 1867.

ART. VI.—*Catalogues and Circulars of Institutes, Military and Civil Academies, Seminaries, &c., &c.*

BEFORE we proceed to give our impressions of the schools, academies and institutes of the Hudson, comparing the good, bad and indifferent with each other, *ex more nostro*, we may be permitted to make an observation, or two, especially as it is a widely known phenomenon that those who are criticised are apt to regard themselves as "attacked," through some motive or other, more or less diabolical.

Nothing is more creditable to the American people than the generous liberality with which they encourage, in every possible manner, the great cause of education; nor is there any of their truly noble characteristics from which greater results may be expected. No country in the world can boast a more extensive system of free schools than ours; nowhere are the teachers of such schools more liberally remunerated; in a word, nowhere have the youth of all classes more ample opportunities of securing the benefits, at least of a good business education, "without money and without price." Yet, in what country do we find schools that are not free more munificently sustained? Neither in Prussia, in England, nor in France are higher prices paid for tuition at high schools or academies, male or female, than are cheerfully paid throughout the United States. Indeed there are but few of the highest educational institutions in those countries where education is most costly, and most exclusively confined to the wealthy, that receive so much for each student as some of our preparatory schools do.

For this laudable liberality alone, if for no other reason, our people should be protected from imposition on the part of pretended educators. In nearly all the German States, as well as in France, Denmark and Sweden, there are laws which prohibit any one from opening a school or seminary without undergoing an examination before a board constituted for that purpose as to his qualifications. If found qualified the candidate for the position of a teacher receives a license,

but in this license the grade of school which he is found capable of teaching is clearly defined; and he renders himself liable to prosecution as an impostor if he represents his school, in his announcements, as of any higher grade than that which his license declares him qualified to teach. In addition to these restrictions, the principal of a high school, seminary, or academy is required by law to admit the curé or rector of the parish, or any member of any of the learned professions, to the recitations of his classes, on pain of rendering himself liable to a new examination.

With us any one may set up as a teacher, call his institution a school, an institute, an academy, or even a college or university, and proclaim that he is capable of giving thorough instructions in all the branches of human knowledge. Nor do we say that it ought to be otherwise, as in the European countries mentioned, for we hold that if the press did its duty there would be no need for any other laws than those embodied in its criticisms. There is no other sphere of human action in which the work of the critic is more needed or in which it is more legitimately performed. What is more, there is no sphere in which it does more good; and here we are reminded of the words of Menzel. "Criticism," says the most impartial and boldest of German critics, "will be itself most bitterly criticised. Whether it be just or unjust it always raises up enemies. Yet it is *indispensable*, and possesses great influence. It is a difficult but a noble calling."*

We had all these facts in view when, just fourteen years ago, we issued our first prospectus for this journal. In that prospectus we used the following language: "Education in every form, including art and science, will receive prominent and friendly attention; and *whatever seems calculated to retard or vitiate it*, whether under the name of a text-book, a painting, a *seminary*, a gallery, or a *college*, will be subjected to fearless, but fair and temperate, criticism." How well or ill we have kept this promise, our readers, and not we, are the best

* *Die deutsche Literatur*. Stuttgart, vol. iv., p. 311.

judges. Suffice it for us to say, that we have done our best to fulfil it faithfully ; nor have we had any reason to complain of the manner in which our efforts in that direction have been received by the more intelligent portion of the public. On the contrary, we have had every reason to feel thankful on that ground, while we could not but regard the feeling manifested toward us by our most eminent educators and thinkers as a source of congratulation and pride.

Hitherto, we have confined our criticisms on educational institutions almost exclusively to colleges and universities, male and female. Of these we have visited a large number, on the invitation or permission of their presidents or chancellors. In not more than two instances out of fifty have we been treated otherwise than in the most courteous manner ; in not more than three instances has the slightest objection been made to our being present at the recitations. The heads of those institutions which confessedly occupy the highest rank, and which make the nearest approach to the most famous similar institutions of Europe, far from making any objection to our seeing their classes, have introduced us to them in person, courteously accompanying us from one lecture-room to another. Upon the other hand, the two or three institutions whose heads have pursued toward us a different course are well known to occupy, if not the lowest rank, at best a rank which is notoriously not high. Our readers may judge for themselves whether we are right or wrong when we say that the former institutions are Harvard, Yale, Columbia (N. Y.), the University of the City of New York, Georgetown College, and Manhattan College ; the latter being Seton Hall College, Fordham College, and the University of Pennsylvania.

Nor have we had any different experience among the higher class of female institutions, certainly not excepting Vassar College. It is but just to remark here, in passing, that neither the President of the latter institution nor any of its professors, male or female, ever treated us otherwise than in the most courteous and kindest manner, and, if we criticised Vassar, it was not because it had not a good and faithful

corps of professors, but because those professors were interfered with and hampered in the performance of their duties by a "Board," composed of persons, who, without knowing anything of education above the merest smattering, affected to be its very fountain. But we understand that the Nathan Bishop incubus no longer exists at Vassar; and we are by no means surprised to learn that, since that gentleman has obtained leave of absence for an indefinite period from the councils of Vassar, the institution has very much improved in its efficiency and general character, and we can assure all interested in the subject that none were more sincerely pleased to hear of this improvement than we.

Our attention has often been called to the institutions on the Hudson which we have chosen as the subject of our present article. Many of our readers have requested our opinion of them in turn, from time to time; and in one or two instances we have tried to comply with their requests. Thus, for example, there are none acquainted with this journal who are not aware of our high estimate of Riverview Academy, Poughkeepsie; upon the other hand, there are none sufficiently long acquainted with it who are not aware that our estimate of Rockland Lake Female Institute, Nyack, is by no means high, although we have never spoken of the latter institution but once. Nor did we do more than indulge in a quiet laugh, which we hoped, for the sake of the great cause, and for the credit of the educational profession, might produce a salutary effect on the reverend principal, for the benefit of the young ladies committed to his charge. Perhaps we should not have laughed in this instance; for we admit that, if there were any use in weeping, it would have been far more appropriate.

The reader may judge which was most natural and most called for when we mention one or two of the things we laughed at. We thought it was rather undignified and not very sensible, not to say vulgar, on the part of a clergyman, who claimed to be a great educator of young ladies, to occupy several pages of his catalogue with the "recommendations"

of some of the smallest village newspapers as proofs of his superiority above all rivals. We also thought there was something unbecoming, if not ridiculous, in calling the same building one name for a part of the year and another name for the remainder of the year; that is, we thought that the Rockland Lake Female Institute should have that title from one end of the year to the other, if it had any just claim to it, and not be newly christened every summer, and called the Tappan Sea House. Another thing we regarded as somewhat ludicrous was that, among the many surpassing advantages which he claimed his institution to possess, as a seat of learning for young ladies, was that of salt-water bathing, the Hudson being, it seemed, quite salty at Nyack, though only a little brackish much nearer the sea!

True, we expressed our fears that the teaching at Nyack was very much like the salt-water—that the former was quite as much diluted—not to say as much a fraud—as the latter. No doubt, this seemed unkind, but if it was, the unkindness did not originate with us, but with the students of the Institute and their parents. Many other complaints were made at the time, which we declined to notice. Thus, for example, we suppressed the allegation that, defective as the mental pabulum at Nyack was, the physical pabulum was still more so. In the same charitable spirit, we suppressed some of the similar compliments paid to the Rev. Delos Mansfield. Thus, for instance, we thought there might be some truth in the statement that that gentleman had proved himself much better qualified by nature and culture to preside at a boarding-house table than at the educator's desk—that he could wield the carving-knife much more dexterously than the pen, or any other educational instrument, except, perhaps, the Nyack salt-water.

But we abstained from making even the slightest allusion to any of these things. Our tenderness in this matter must have been well known to the Rev. Mr. Mansfield, but, instead of thanking us for it, he has never forgiven us from that day to this. Learning how bitterly he complained, we

offered to go all the way to Nyack, and make the most ample amends in our power for any mistakes we might have been led into, on finding from personal observation that they were mistakes. The Rev. Mr. Mansfield affected to regard this as a very fair proposition, and wrote a polite letter, inviting us to visit the Institute, telling us what train to take, and informing us that he would have a carriage waiting for us at the depot. All this appeared straightforward, courteous, and brave; but the letter closed with the piece of information that the writer was only just recovering from a long and severe illness, and that, on account of this illness, it could not be expected that the present condition of the Institute would be a fair criterion of its high general character as a first-class school. As we could not help regarding this as a *miserere*, we immediately wrote back that we could not think of disturbing the gentleman in such delicate circumstances, and, therefore, that he need not have any carriage or other vehicle waiting for us at the depot or elsewhere.

Some two or three years have since elapsed. In the mean time the grumblings against both kinds of pabulum furnished by the Rockland Lake Female Institute have become more and more loud and indignant. At the beginning of last month we resolved to visit as many of the Hudson River institutions as had no objection to our doing so, in order that we might be able to answer, from personal observation, at least a portion of the inquiries made of us. We wrote a note to Mr. Mansfield, remarking that we presumed it was needless to trouble him again to inquire as to his willingness that we should visit his institution, seeing that he had so cordially invited us on the occasion alluded to above. We mentioned to him at the same time that we did not contemplate visiting Rockland Lake Institute alone, but every other institute, academy and seminary on the Hudson that claimed to be a seat of learning for either sex, or for both sexes, and that would be willing to allow us that privilege, adding that our object was to prepare an article for our next number in which we could give our impressions in brief of each.

But whether it was that the fable of the Boys and the Frogs occurred to the Rev. Mr. Mansfield just then, or that the peculiar dialects which he pretends to teach as Greek, Latin, etc., would no more stand the test of critical observation than the salt water of the Tappan Sea, and that it might take many such "first rate notices" and "testimonials" as those of the "Cayuga Chief" and other similar village luminaries to prove their genuineness, he adopted the adage, that prudence is the better part of valor, and wrote to us "very respectfully," that he had changed his mind! Such members of the press as write and publish enlogies at fifty cents a line may visit Rockland Lake Female Institute whenever they like, but that institution is closed to all who are even suspected of being critically inclined. We do not pretend to think, however, that there is anything strange in this. Those in the habit of counterfeiting the current coin of the commonwealth have naturally an objection to be detected and exposed.

It is but justice to the many other educational institutions on the Hudson to say that whatever their faults may be in other particulars, not one of their principals or presidents has offered the slightest objection to our visiting their class rooms. Nay, several of them had invited us voluntarily to do so more than once. True, only those of the first class—those conscious at once of their qualifications, abilities and integrity, have been thus liberal, and willing that their work should be witnessed even by reviewers; we mean such well-established, efficient, thorough, successful schools as the Riverview Academy, Poughkeepsie; the Poughkeepsie Female Academy, the Fort Edward Collegiate Institute, and the Mount Pleasant Academy, Sing Sing. We shall have a word to say of each of these as we proceed, for we have visited each, and been cordially permitted to see and judge for ourselves. We visited about a dozen altogether during the month of February. Nor did we visit two any one day, save in one instance, so that we may truly say we have spared neither time, nor expense, nor trouble in our efforts to obtain such information as would enable us to reply more or less definitely to certain questions proposed to

us from time to time. In most instances we have been invited to dine. In some instances we have accepted those invitations, but in every case in which we could say nothing good of the institution we have paid the principal or president thereof one dollar for the dinner. And if it be borne in mind that in proportion as the teaching was meagre and otherwise defective, the table was so, we think we shall be believed when we say that in every instance in which we paid our dollar, the learned head of the institution had a clear profit by our visit of seventy-five cents; for although our appetite is generally pretty good, and is somewhat improved by our excursions through the country in pursuit of knowledge, we have a horror of the *trichina spiralis* which renders us as much averse to pork as the most orthodox of our Hebrew fellow citizens. However, we must not anticipate events, but consider them in their natural order as they occur.

The remarkable success of Prof. Bisbee, who, in establishing the Riverview Academy, at Poughkeepsie, combined military drill with the other excellent features of his system of education, caused quite a host of imitators to spring up on the banks of the Hudson and elsewhere; but the imitations in general are far too suggestive of those of the monkey trying to imitate the actions of men. With one or two exceptions those who have decorated their schools in almost every village along the Hudson with the high sounding title of "Military Institute" have lost sight of the fact that Prof. Bisbee has always held his military organization, excellent as it undoubtedly is, subordinate to his higher English course, embracing physics, mathematics, history, logic, etc., as well as to his classical course, and course in modern languages. They forget that there are few better Grecians or Latinists at the head either of academies or institutes in this country than Bisbee; and that there are none anywhere who know better how to appreciate the value of knowledge, or who possess in a higher degree the faculty of impressing his own views on the minds of his students. During a delightful drive which we enjoyed with him in his carriage on the occasion of our recent visit to

Riverview Academy, his observations on the Latin gerund and gerundive, and on the Greek participles, as compared to the English, while the ladies who accompanied us chatted between themselves on other topics, was to us a veritable treat. And much as we were absorbed between our admiration of the picturesque and beautiful environs of Poughkeepsie, the unaffected, genuine classical lore of the professor, and the animated conversation of the ladies, we were forcibly reminded of Duclos' high but just estimate of instruction and knowledge: "*L'enseignement est une riche mine qui donne pour produit de l'argent, de l'influence, et du pouvoir.*" That this is no exaggerated estimate on the part of the philosopher is well illustrated by the results attained by Prof. Bisbee himself. The structure which he has built with his own money—the proceeds of his indefatigable, faithful educational labors for nearly half a life-time—is at once a proof and a monument of his success. It is so well described with its surroundings in the last catalogue of the Academy, of which we have a copy before us, that we make no apology for extracting the following passage, only premising that we can bear testimony to its fidelity both to art and nature:

"The building is a large brick structure, occupying an elevation on the east bank of the Hudson river, and very distinctly seen from the passing cars and boats. It embraces many conveniences adapted to the wants of a first-class boarding-school, such as are not found in most other similar institutions. It is most thoroughly ventilated, and heated by steam throughout; water is accessible on every floor, and the room of each pupil is as pleasant as it could be at home. The views are delightful in every direction, and the place is pre-eminently healthy.

"The river with its numerous attractions, lies below, stretching many miles in sight. The Highlands rise into prominence on the south, while to the north, forty miles away, is distinctly seen the Catskill Mountain House. Eastward, the city of Poughkeepsie lies mostly in view, and in the immediate vicinity is the most cultivated portion, adorned with park and fountain. Opportunities for bathing, rowing and skating are ample. The extent of the play-grounds allow, also, the recreation of the ordinary games and sports of school-boys.

Without waiting at this moment to give our impressions of one or two other Poughkeepsie institutions which it has

been our privilege to visit during our recent tour, we proceed to take a glance at some of the imitators of Prof. Bisbee already alluded to. But we shall not fail to return to the "City of Schools," if only to do ourselves the pleasure of saying a word or two of what we saw and heard at that really excellent institution known as Poughkeepsie Female Academy—an institution which—as will be seen in due time—presents a contrast, in every essential characteristic, to the Female Institute referred to in a preceding page as advertising the salt-water of the Hudson and certain other things of kindred genuineness and worth!

It is a curious fact that, of all the schools on the Hudson called Military Institutes, none give more prominence to the "military" element than those whose principals or presidents prefix "Rev." to their names. Another fact which some may consider curious is, that the greater this prominence is, the more the "military organization" is a downright burlesque! But such has certainly been our experience; not indeed, but there is far too much of the ridiculous in all the "military institutes" we have visited, with the two exceptions already alluded to, namely, Riverview Academy, and Mount Pleasant Academy, Sing Sing. The term "military" formed a part of the title of the former for some time after the war, but the principal, becoming disgusted with the ludicrous affectation and charlatanism of his imitators, omitted the pompous term from the title, but continued the military drill, in as much perfection as ever. The same judicious, sensible course has been pursued by the principal of the Mount Pleasant Academy—an institution whose thoroughness and efficiency really surprised us, and of which we shall have more to say before we close. We trust we need hardly remark that, in speaking of the reverend heads of "military" institutes, we do not mean to disparage the clerical educators of the Hudson in general. Any such attempt would be a great injustice, and could only recoil on those making it; for the truth is that nowhere have we met clergymen engaged in the great work of teaching who, in our opinion, are better

qualified for their positions, or more earnestly intent on performing their duties faithfully and efficiently. In illustration of this, we need only mention two names—Rev. Joseph E. King, of Fort Edward Collegiate Institute, and Rev. D. G. Wright, of Poughkeepsie Female Academy—of whose indefatigable labors and their fruits we shall have a word to say further on.

We make no pretensions to infallibility in our opinions, but we cannot help thinking that they are not the right sort of clergymen who make such a display of their "military" proclivities. We have always regarded military priests and "priests and fanes that lie" as very much alike. The student of Greek poetry, acquainted with the few fragments of Menander which have reached our time, is aware that even among the Pagans military priests were compared to crowing hens. And certainly our recent experience has not been of a character to satisfy us that the old poet was altogether wrong in his comparison.

The first of these great seats of learning we visited is that entitled, "The Jackson Institute: a *Military Boarding School*," Tarrytown, N. Y., the principal of which is the "Rev. F. J. Jackson, A. M." Mr. Jackson is, indeed, a very bland, polite individual. So overflowing is his hospitality that, as a condition of our being allowed the privilege of seeing some of his classes, he insisted on our dining with him at the great military table. Fat, fresh pork being the only dish of animal food, we confess we felt a little timid; but so pious and fervent was the prayer offered up by the Rev. Mr. Jackson, before commencing operations with the carving knife, that we thought we should be safe in taking a small morsel; and so the event proved, for we experienced no disagreeable result. But we were sorry to learn, a few days afterwards, that the "cadets" were not so fortunate; that having been allowed more than a double allowance of pork, on account of the presence of a stranger, their sensations during the next four and twenty hours were by no means pleasant. However, not a word of this would have been mentioned here, or elsewhere, by us, did we

not find the mental pabulum of the Jackson Military Institute still more objectionable, if possible, than its physical pabulum. Had it not been for this, we would never have quoted in reference to the matter, as we do now, the very expressive and appropriate, though brief words of Cicero, *Non sus Minervam*. Nay, it is more than probable that a sentiment of pity would have constrained us to pass over the whole affair, had we not found that, if the reverend principal has not shown ability and skill as a teacher in either his military, civil, or religious capacity, he is quite an adept in making representations which prove in due time to be entirely wanting in the element of truth.

Nor do we allude now to his accusations against his "military" rivals—such accusations, for example, as one he makes against the Rev. Mr. Flack, of Claverack, which runs thus: Brother Flack, who is also at the head of a great military organization, attempted to rob brother Jackson of a large number of his "cadets," by causing one of his emissaries to assure all the privates that they would at once be made commissioned officers, at Claverack, and that those who were officers already, at the Jackson Institute, would be promoted at least one step the moment they reported themselves to the adjutant-general at Claverack College and Hudson River Institute. This was the first circumstance which excited our suspicion as to the credibility of the Rev. Mr. Jackson's statements; for we confess we did not believe that his "military organization" had rendered Brother Flack quite so demoralized as that; nor have we learned anything since that has caused us to change our opinion in that respect, although Claverack is one of the institutions we visited during our recent excursions, and is also one of those which did not excite our admiration to any great extent.

The Rev. Mr. Jackson has a class in mathematics, and another in Latin, in the Jackson Military Institute; and it is but justice to him to say that he invited us to question each. But we like to propose questions only when we think there is some probability that at least a portion of them can be

answered ; accordingly we respectfully declined in both these instances, for the poor "cadets" were sufficiently puzzled by their teachers—by the simplest propositions in mathematics, and the easiest words in Latin—without our puzzling them any further. Now we think the intelligent, thoughtful reader may judge for himself whether we were right or wrong, on having taken a survey of the whole ground, in declining to accept a dinner, even such as it was, at such an institute, without paying a liberal price for it.

The transition from the Jackson Military Institute, Tarrytown, to the Mount Pleasant Academy, Sing Sing, is to us a most agreeable one, and we have no doubt that it will prove equally so to our readers. Indeed, a sufficiently striking difference between the two institutions is shown by their catalogues, both of which lie before us. In one there is not a thought or an idea save what relates to *money*, together with the "testimonials" usually found in such inanities ; in short, a more meagre, barren pamphlet has never found its way to our table, not excepting the catalogue of an auctioneer who wants to make the most of a few sets of dingy, moth-eaten furniture ; The other catalogue, on the contrary, fully and ably discusses the subject of education, and sets forth the objects and aims of the principal in modest and sensible, but broad and satisfactory language. This the reader will be able to see for himself from an extract or two. First, the local position of the Mount Pleasant Academy is briefly described thus :

"The location of the school, at the widest point of the Hudson, and a few miles south of the mountain ridge of the Highlands, combines all that can be desired in healthfulness and accessibility, as well as in beauty of natural scenery ; while the pure air of an elevated and broken region gives tone and vigor to the system."

On the next page we read, most approvingly :

"In addressing ourselves to the great work of Education, we have endeavored to keep distinctly in view the fact that boys have bodies as well as minds ; hearts as well as intellects ; and that any system in which either of these is neglected, must, of necessity, and to that degree, be defective. It has, therefore, been our object to provide not

only for their intellectual training, but also to consider our pupils as social beings, requiring moral training, and with a physical organization through which the intellectual and moral attributes are to have life and strength."

As our space is rapidly diminishing, we must necessarily be brief in our extracts. We must, however, make room for another paragraph, or two, from the Mount Pleasant Catalogue. Some of those who give their schools the most pompous names would do well to ponder on the suggestions contained in the following:—

"No one expects to plant the tree and gather the fruit at the same time, or to sow the seed in the morning, and reap the ripened grain in the evening. And yet there are those who, after ten or fifteen years of unchecked indulgence, with every habit of negligence and mental confusion fully established in their children, expect the teacher in a few months, with a power of transmutation surpassing all the arts of the alchemist, to change the dross to gold, rudeness to refinement, the undisciplined mind into the cultivated intellect. To such we would say, habits, and especially good habits, are of slow growth. We have here no forcing process, and no fellowship with those who advocate it; and we make no promise to realize such expectations. But to the work of sound training when time and opportunity are given, and a strict conformity to the conditions of the school is observed, we have no hesitation in pledging ourselves and the gentlemen associated with us.

"Believing that there can be no great attainments without corresponding exertions, and disclaiming all skill in those *easy methods* that affect to make the acquisition of knowledge only a pastime, we cannot promise to our pupils any advance in the great walks of learning that is not won chiefly by their own diligence and zeal. What we can and do promise is, by every means in our power to induce and encourage, and aid in their efforts—to foster and strengthen those habits of accuracy, perseverance, and self-reliance, that give the only sure promise of success in life. Our object is not to 'produce learned boys, but to subject boys to that discipline and training that may fit them to become learned, able and Christian men.'"

It is needless to commend these remarks; they commend themselves to every intelligent parent by their practical good sense. Prof. J. Howe Allen, their author and the principal of the Academy, is a graduate of Middlebury College, a gentleman of fine culture and a very excellent, though modest, unpretending educator. We have seen sufficient during our

visit to satisfy us on these points. Mr. Allen introduced us to every class we had any wish to see; so that we were present at recitations both in ancient and modern languages, as well as in mathematics and other English branches, including the grammar of the good old vernacular, which none appreciate for its vigor and energy more than we. We beg leave, in passing, to express the hope that no head of an educational institution which we may have the privilege of visiting will regard us as guilty of the affectation of pretending to be above taking an interest in the English grammar recitations. Nor are we indifferent to those in arithmetic, even down to the simplest vulgar fractions. There is not one of these studies which has not its own peculiar charm for us; and yet we confess that of all the classes we saw at Mount Pleasant, none pleased us so well as that in Virgil. The students gave renderings of passages in the third book of the *Æneid* which were superior, in our opinion, to those given by the students of several colleges we have visited. The natural sciences are also taught by competent instructors, and carefully studied at Mount Pleasant, with the aid of appropriate apparatus and instruments. Nor should we forget the library, which, by the polite invitation of Mr. Allen, we had an opportunity of finding well stored with select works, numbering about two thousand volumes. To this we think we need hardly add, that even the exemplary Riverview Academy may regard the Mount Pleasant Academy as a worthy rival.

We sincerely wish we could speak in similar terms, *ex-cathedra*, of "The Peekskill Military Academy." As a private individual we have, indeed, been as complimentary as possible to the genius who presides at that institution. That our compliments were somewhat ironical we confess, but they were not the less acceptable on that account, for they were by no means understood as such. Thus, for example, we took the liberty of suggesting in the gravest tone we could assume, that such enormous intellectual activity as that of the head-master and adjutant-general was fraught with danger to his nobler part. The dinner, too, which he insisted on our participating

of, exactly as the Rev. General Jackson had done, we designated to him as "excellent;" and in proof of our sincerity, we presented him a dollar bill, which he seemed to grasp with as much avidity as was evinced by Romeo's apothecary when that unhappy individual was handed the price of his "mortal drug." But when we address our readers, who have a right to expect criticism, and not laudation where criticism is merited, that is a different matter: we then find we have a duty to perform, and, however unpleasant it may be, we cannot shrink from it, fully accepting as we do the precept of Publius Syrus,

"Judex damnatur, cum nocens absolvitur."

We can truly say that no comedy we have ever seen performed afforded us more amusement than we enjoyed during the several hours which we witnessed the performances of "Colonel Charles J. Wright, A.M., Principal, of the Peekskill Military Academy." The exhibition was a veritable comedy of *errors*, interspersed here and there with scenes of the broadest farce. We only wish we had time and space to describe some of these scenes, and yet if we had they would seem to most of our readers as too incredible for belief. For the first hour we could hardly believe our own eyes and ears, for we had innocently supposed that the boarding schools, civil and military, which we used to read of in satirical novels of the last century, had passed out of existence. It is, however, but justice to the learned colonel to say that we saw him give lessons on that memorable day, in English grammar, arithmetic, geometry, book-keeping, trigonometry, drawing, ethics, military drill, etc., etc.; but such "lessons" we hope we shall never see again in any academy or school, whether military or civil! The "cadets" too seemed to enjoy the fun, for they managed to keep the institution in a constant uproar.

The Catalogue, or Circular, is just what we might expect from such a source. Under the imposing heading, in large fancy type, "THE PEEKSKILL MILITARY ACADEMY," we have, at page 5, the commencement of a sort of autobiography of the "associate principals." From this we learn that the colonel is a graduate of Hobart College, wherever and what-

ever that institution may be; that he was principal of a Classical Institute at Milton (Pa.), etc., etc. Such was his great success in Pennsylvania that he excited the jealousy and envy of the whole teaching fraternity! Being of a benexolent disposition, this grieved him much, and accordingly we hear of him next at that famous seat of learning known the world over as "Yonkers Military Institute," where he occupied the commanding and important position of drill-sergeant, or sergeant-major. As some of our readers may be ignorant of the high character of the Yonkers Military Institute (for we are ashamed to say we were in that ignorant condition ourselves until very recently), we may remark parenthetically, that its students, military and non-military, form a total of nearly a whole score, whom some are unmannerly enough to call "urchins." All in the habit of reading the newspapers may see that the head master of the Yonkers Military Institute makes two important announcements daily—one is, that little boys are admitted to all the privileges of the institution; the other, that Greek and Latin are free within its classic halls; although the head master illustrates his superior system of teaching by informing all whom it may concern that in the phrase, "a very large assembly," "very" is an adjective qualifying "assembly," and not an adverb qualifying "large!"

It is easy to understand that a man of genius could not long occupy even the position of a drill-sergeant in a school of this high grade without finding his fame extended. Accordingly it soon found its way to Peekskill, or perhaps it would be more correct to say that the colonel occasionally carried it thither himself, after school hours. Be this as it may, he was duly installed there about a year ago. By way of evincing his gratitude to the ten trustees, he affixes "Esq." to the name of each in the catalogue before us, except one, who is regarded as sufficiently honored by the affix "Jr." Three of the ten are reproduced as "Officers of the Board," and are each duly decorated again on the same page with "Esq."

This is all very well for the trustees of the Peekskill Military Academy, but there is no mark of gratitude for the

head master of the Yonkers Military Institute. On the contrary both master and institution are run down to the lowest grade by the gallant and learned colonel.

Every science and art receives "special attention" at the Peekskill Military Academy, according to the *brochure* before us. We cannot say that we wonder at the following announcement, but, in fact, rather think it appropriate:

" Special attention will be given to teaching ENGLISH to *Spanish, Japanese, and other foreign students.*" (p. 9.)

No doubt the sort of English taught by the colonel would be very good for "Spanish, Japanese, and other foreigners." Speaking of the great virtues of infantry and artillery "tactics," the catalogue proceeds—

"*This secures a due share of healthful exercise to all, including those who, otherwise, would scarcely exercise at all. It cultivates an erect carriage, and a manly, respectful and gentlemanly bearing. It checks an inclination to boisterous conduct, etc.*" (pp. 9, 10.)

This would show by itself what an excellent teacher of English grammar the colonel must be; and we have already seen how effectual artillery tactics are in checking "an inclination to boisterous conduct." (!) Among the more important regulations of the Peekskill Military Academy are the following: "All pantaloons to be worn with suspenders" (!) (p. 11); "No food should be sent to students, except ripe fruit *in its season*" (p. 15). Be it remembered that even ripe fruit is not to be sent when it is not in season! As for pork, goat, etc., the "cadets" need no increase of those articles, and should a different class of viands be sent, there would be danger of a mutiny, for this is precisely one of those instances in which ignorance is bliss.

But it is time to return to the "City of Schools." No one competent to form an intelligent opinion can pass even hurriedly through the class rooms of the Poughkeepsie Female Academy, listening a few minutes to one recitation and a few minutes to another, without feeling that he is in an atmosphere of superior culture. This has certainly been our experience.

Nor is it any mere compliment to the sex on our part, to say that in no preparatory school, male or female, which it has been our privilege to visit, in Europe or America, have we seen Virgil better translated than by the young ladies of this institution under the tuition of Miss G. E. Hayden. We indulge in no exaggeration, and do no injustice to male students or male professors, when we assure our readers that we have visited several colleges whose renderings of the *Æneid* were far inferior to what we witnessed on this occasion at the Academy under consideration. After the young ladies had translated quite a long passage in the third book, their accomplished instructor asked us to propose them some questions; and they seemed to understand the spirit of the author so well, that we readily allowed ourselves to be induced to do so. Nor were we in the least mistaken in coming to the conclusion, from what we had witnessed, that no confusion or other unpleasantness would arise from our asking such questions as the recitations happened to suggest to us, for not in a single instance did Miss Hayden's pupils fail to give an intelligent, satisfactory answer. But, although the Rector is himself a Grecian, as well as a Latinist, and takes pleasure in teaching the languages of Plato and Cicero, he by no means neglects the vernacular tongue, or what may be regarded as the lighter accomplishments. This will be sufficiently understood from the following extract from the Rev. Mr. Wright's Catalogue :

"An accomplished English education—as it is of the first importance—is here given the preference. But when pupils are sufficiently advanced to justify the hope that they may be benefited by a knowledge of ancient or modern languages, they are urged to enrich their minds with the treasures of the Latin and Greek tongues, and also, the German and French. The latter is in charge of a French gentleman of rare accomplishments and many years' experience, who not only devotes the most of his time to pupils in the class room, but meets them daily at table and in social intercourse; thus enabling the Academy to offer facilities for acquaintance with the language not surpassed and seldom equalled in American schools. German is taught by a gentleman who for several years held a professorship in one of the first universities of his native land."

In a word, the Rev. Mr. Wright's Academy ranks with

the best female institutions we have seen anywhere in all the characteristics which combine the useful and the ornamental; nay, in short, which make students perfect ladies, without allowing them to forget that they belong to the gentler and more retiring sex, and that as such they owe duties to society which they can not evade with impunity to their honor and good name.

The Brooks Seminary for young ladies, at Poughkeepsie, is also a very respectable institution; but it must be admitted that it lacks the thoroughness and other higher characteristics of the Poughkeepsie Female Academy. At the former as well as at the latter we have been afforded an opportunity of hearing some of the recitations. We heard one in Latin—that of quite a large class—but although the teacher (Miss Harriet McComb) proved herself entirely competent for her position, and the young ladies acquitted themselves creditably for the opportunities and experience they had had, yet the whole performance was very different from what we had witnessed at Rev. Mr. Wright's school. It was more than the difference between translating one of the simplest of Æsop's fables—that of the Hawk and the Doves—(*Accipiter et Columbae*) and some of the most difficult passages in the Æneid. The Academy ladies were much more at home in the latter than the Seminary ladies were in the former, and a corresponding difference in favor of the Academy was clearly observable in the evidences of general culture. Judging from its Catalogue, Brooks Seminary has no higher aim than to be regarded as a preparatory school for Vassar College; in other words it is only ambitious to be a small satellite. The evidence of this pervades every page of that pamphlet. Indeed, the "mutual admiration" plan is carried to a fulsome extent in the catalogue. We do not know who is to blame for this, if any one is, further than that we read on the title page, after the name of the institution, "Edward White, *Proprietor*," and at the head of "Instructors," "Mrs. Mary B. Johnson White, *Principal*." In this case the proprietor and principal are different, although probably "the twain are one flesh." But, be this as it may,

Brooks Seminary is, as we have said, a respectable school—quite as much superior to the Rockland Lake Female Institute, as it is inferior to the Poughkeepsie Female Academy.

Cottage Hill Seminary, Poughkeepsie, has not yet had sufficient time, under its present auspices, to establish a definite reputation, the old Cottage Hill having, we are informed, run off to Tarrytown! The Rev. Mr. Ryder became disgusted with the “City of Schools.” He thought the atmosphere of Tarrytown would be much more congenial, and we think he was right, if only because it is there that other eminent divine, Rev. F. J. Jackson, holds forth, as head of the great Military Institute which so proudly bears his name. Then be it remembered that, Nyack, famous for its Female Institute and its Tappan Sea House, is right opposite to Tarrytown, with its Rev. Delos Mansfield, head of that Protean Paradise

“Lying N. N. E. of the land of sense,
And seldom blessed with a glimmer thence.
But they want it not in that happy place,
Where a light of its own gilds every face;
Or, if some wear a shadowy brow,
’Tis the *wish* to look wise, not knowing *how*.”

It is not often that three such educators and divines as Mansfield, Jackson and Rider, have their institutions so near each other. One, be it remembered, offers to his pupils the benefit of the salt-water of the Hudson! and why should not the other twain avail themselves of the same? since none can pretend but the Tarrytown side of the river has just as much of the saline element in it as the Nyack side. Diogenes, the Cynic, used to ascribe to salt-water two wonderful properties—one was that of producing a complete and permanent cure in cases of hypocrisy, imposture, false pretences, etc.; the other that of destroying the *trichina spiralis*, in hogs and other unclean animals sometimes used for food. Who knows but it possesses those properties at the present day if rightly used? And if so we need hardly suggest what a series of blessings it may ultimately produce! At all events,

it seems that Cottage Hill Seminary is something that may be removed about from place to place, like the gates of Somnauth among the Hindoos, as "the pressure from without" becomes more or less urgent; and yet the Rev. Mr. Rider is brimful of indignation against Mr. Wetsell, because the latter gentleman has presumed to retain the old name of the Poughkeepsie institution. In our opinion this was, indeed, wrong; for the prestige left behind, when the memorable transmigration took place, was, to speak in the mildest terms, of doubtful value.

But there is one other great school at Tarrytown, which claims a passing word—we mean the "Irving Institute." Alas! for the honor this confers on the memory of the most elegant and most fascinating of American authors. True, for aught we know, the Irving Institute may have been once a school of a high order; for its present head master is such chiefly, if not exclusively in virtue of his having married the daughter of the former head master; although it is but fair to add that, before this alliance took place, Mr. Armagnac was a teacher in Pennsylvania, and his fame as such was second, in that region, only to that of the present gallant and learned head master of the Peekskill Military Academy. Mr. Armagnac is professor of "Natural Science, with Experimental Lectures, Latin and Greek," in his own institution. We have witnessed some of his performances in several of these branches of learning, and we readily acknowledge that most of them struck us as unique in their way. Indeed, we have never heard at any school or seminary such another lesson in French history in the English language, as his. In order to show his learning, he would have the names of all Frenchmen, French women, French cities, etc., occurring in the lesson, pronounced in French—such French as Puck is said to have spoken to the Institute—

. "As puzzled those learned Thebans much
 To know if 'twas Sanscrit, or High-Dutch."

Need we remark to any intelligent person that there is no more silly or more ridiculous affectation than to read or speak English in this Frenchified style? If we should pronounce

French names, in reading or speaking English, as the French themselves pronounce them in using their native dialect, there is no reason why we should not observe the same courtesy toward the Germans, the Russians, the Turks, etc. Do any of these nationalities consider themselves bound to pronounce our proper names as we do ourselves? Yet Mr. Armagnac's half English, half French, lesson to his students was not one-tenth so amusing to us as his lesson in translating one of the easiest passages in Cæsar. In not a single instance was the Latin verb correctly rendered by the students, and in not a single instance did the principal of "The Irving Institute, a *Classical* and Commercial Boarding School," venture to correct them! Yet let the reader turn to Mr. Armagnac's Catalogue and observe the lofty tone that gentleman assumes. We only wish we had time and space for a few specimens; as it is, we can only give a small morsel. Speaking of the highly refining "family influence" at the Irving Institute, Prof. Armagnac, A.M., says:

"There is no attempt to restrain mutual intercourse at the table or in the drawing-room, *as becomes necessary in ordinary boarding-schools.*" (p. 6.)

We now turn to the north again, following the noble Hudson almost to its source. It is certainly through no lack of appreciation of the merits of Fort Edward Collegiate Institute that we have merely alluded to it thus far. If we have nearly reached the conclusion of our discursive article before attempting to give any account of our visit to it, or any definite estimate of its character, it is only because we wish to bring our excursions to as agreeable a close as possible. We never had visited Fort Edward before, and never had seen the Rev. Dr. King. We had, indeed, often heard both of the Institute and its head, and, except in one instance,* we had never heard

* And in this one instance our informant was no other than the gallant and learned colonel who so ably guides the destinies of Peekskill Military Academy. According to this great educator a thousand things were wrong at Fort Edward; so that some of the good people of that village who have more perception than their neighbors, found it necessary

either spoken of otherwise than in the language of esteem and approbation. Yet, of all the institutions we have recently visited, none have so much surprised us as Fort Edward. It is true that we were prepared to find it a very respectable school, but the simple truth is, that we have visited a dozen colleges, so called, in different parts of the country, not one of which is equal to this Institute, either in its educational thoroughness, in the results it produces, or in the number, mature age, and respectability of its students. But before adducing any evidence of the justness of this estimate, let us give our readers some idea of the Institute buildings and the manner in which they are prepared and furnished for the good work for which they were designed; and this we cannot do better, or more faithfully, than by extracting the following passage from the catalogue:

“The buildings are of brick, constructed in a substantial and permanent manner, and provided with desirable fixtures, promotive both of the comfort and health of the occupants, and of the order and economy of the establishment. The main building is 300 feet long by 40 feet wide, and five stories high, and is devoted to students’ and teachers’ rooms. The north wing is 130 feet by 40, and is devoted to public rooms. The Ladies’ Department is in the east part of the main building, and is separated from the Gentlemen’s by public rooms and partitions. It is provided with separate entrances, staircases, and passages to the public rooms. The Institute, under one roof, is provided with a spacious Chapel, extensive Commercial Rooms, twelve Music Rooms, an ample Ladies’ Gymnasium, four Literary Society Rooms, Parlor, Cabinet, commodious Recitation Rooms, conveniently located, arranged, and furnished; among them a Chemical and Philosophical Laboratory, and a Painting and Drawing Room; also a Dining Hall furnished for 300 boarders, with corresponding Kitchen accommodations.”

Having made the necessary arrangements at the hotel we employed a vehicle, at 5 o’clock P. M., and drove to the Institute, and our first surprise was the extent of the buildings de-

to send their sons to Peekskill to be educated by him! We could not know then, but some of his statements were true. Now they only remind us of a line in Menander, which we beg leave to transcribe here, recommending it to that gentleman as a motto for his catalogue:

Ψευδόμενος ουδείς λαμβάνει πολὺν χρόνον.

Er. Incert. Comæd., p. 208.

scribed in the above extract. Proceeding to the study of Dr. King, to which we were directed by our cicerone, we introduced ourselves to that gentleman as a person, who taking an interest in education, would like to be present at some of his recitations next morning, if agreeable to him. The Doctor politely expressed his willingness, at the same time asking our name. Some may think that we ought to have given the latter without being asked, and perhaps we ought; but our only reason for the omission—an omission we usually make in such circumstances—was that we do not like to seem pompous, and wish to cause as little trouble as possible. At all events, Dr. King soon showed that he had no fear of criticism, and no prejudice against reviewers. Our first interview terminated with the understanding that next morning we were to visit such classes as we wished to see, and with this understanding we bade the doctor "good evening," and returned to the hotel. But we had not been there more than ten minutes when he entered, and kindly asked, were we the Quarterly editor from New York, adding that Mrs. King, with quicker intuition than himself, said at once it was we. He did not call, however, to offer any objection to our hearing his recitations in the event of our proving to be the reviewer alluded to, but in a very different spirit, and for a different purpose. He kindly offered to send his carriage for us, and assured us that it would afford him pleasure to have us hear every recitation in which we took any interest.

That this was not merely the language of courtesy we had ample proof the next day, for there was not a class we had time to visit to which he did not introduce us; and when we did not wish to question the students on his invitation, being unwilling to interrupt the exercises, the doctor questioned them himself, and did so much more searchingly than we could have felt justified in doing. We can truly say that we have nowhere spent three or four hours at any similar institution in a manner more agreeable to ourselves. Neither in New York, nor in the modern Athens—both of whose best schools, male and female, we have visited—have we heard

more creditable, or more satisfactory recitations, either in the sciences, or in the languages.

The male professors at Fort Edward are very competent men ; and, with the exception of Dr. King himself, the female professors are in every respect their equal as instructors. This is all the more important from the fact that, as most of our readers are aware, the Collegiate Institute is devoted to both sexes. The doctor's own family—Mrs. King and her two daughters—certainly afford the young ladies good examples of lady-like womanhood. Miss King, who is not more than sixteen or seventeen, is highly accomplished, quite a good Latinist, and, withal, possesses considerable personal beauty. She takes her Virgil even to table with her, and whenever she meets a construction which she is not sure she entirely understands, her father has to explain it to her, and to him it seems much more agreeable than irksome to comply with her wish. Miss Bancroft, the Preceptress, who has charge of the whole female department, is a lady of superior culture, and eminently lady-like both in form and deportment.

The Rev. Dr. King has no "military organization" like the Rev. Mr. Jackson, of Tarrytown, or the Rev. Mr. Flack, of Claverack. Yet he has a much larger number of male students than either, and many more of his students are of mature age. And what is still more important, his students are much more advanced in education ; although we should be unjust did we place Mr. Flack's school in the same category with burlesque institutions like the Jackson Military Institute, the Peekskill Military Academy, and the Yonkers Military Institute. Most cheerfully do we bear testimony to the fact that it is more superior to all these than it is inferior to the Fort Edward Institute, although this inferiority struck us as strongly marked. Let that pass, however, for a moment.

We confess we visited Fort Edward with some doubt as to the advisability of having both sexes educated side by side, in the same classes, after they attained a certain age ; but we saw nothing in any class, or class-room, having any bearing on the question, which had not a tendency to show that under

proper restrictions, such as those which Dr. King knows so well how to impose, without seeming even to the students, male or female, to do so, no unfavorable results need be feared. Nay, we are inclined to accept the conclusions at which he has arrived after an experience of nineteen years as head of the Collegiate Institute, and which he expresses as follows in his catalogue :

"1. The association of young men and young women in the same classes and exercises appeals powerfully and constantly to a healthful spirit of emulation, and is greatly promotive of thorough scholars. The average tone of scholarship is decidedly higher in those classes where both sexes are well represented, than in a class composed exclusively either of gentlemen or of ladies. In the matter of rhetorical or oratorical exercises, this result is brilliantly obvious.

"2. The daily association of young ladies and gentlemen, in the presence of their teachers, exerts a most salutary effect upon the *manners of both*; tending powerfully to render the young men courteous, self-respectful, refined and manly, and the young women modest, decorous, graceful and womanly. A young lady educated thus, naturally, is likely to become self-poised and to develop a symmetry and completeness of intellectual stature rarely attainable under less favorable circumstances."

Undoubtedly this fully accords with what we have seen and heard at Fort Edward. But there are none that send either their sons or daughters to boarding-schools who can be entirely indifferent to the character of the table set for them. Every intelligent parent knows that neither the mind nor the body can improve much on unwholesome food, or on too scanty an allowance of food that is not unwholesome in itself. We have remarked above that where the mental pabulum is defective, the physical pabulum is very apt to be defective also, and *vice versa*. To some of our readers this may seem a mere jest, but in instances like those pointed out in the preceding pages, there is too much truth in it. Now, if we turn to the other side of the question, we shall find the same principle illustrated. After we had witnessed the recitations of so many classes at Fort Edward, Dr. King politely insisted on our dining with himself and his family, in the spacious dining-hall of the institution, surrounded by over two hundred students. Instead of fat pork, as at the Jackson Military Institute, or

goat, or horse flesh, as at the Peekskill Military Academy, etc.,* the first dish served up at Fort Edward Institute was a magnificent roast turkey, and all the other dishes were in keeping with it. Dinner being over, Dr. King asked us whether we preferred hearing the afternoon recitations, or having a carriage drive for an hour or two. Being quite satisfied with all we had heard of the former, we acknowledged our preference for the drive, and the Doctor, accompanied by Mrs. King, drove us accordingly to all the attractive places in the neighborhood, pointing out to us localities and structures possessing a deep historical interest derived from the revolutionary war. Thus, for example, we had an opportunity of seeing, not only the spot where the beautiful and accomplished Miss McRea is supposed to have been murdered by the Indians while going to meet her lover, but also the house in which she resided, and from which she proceeded on her fatal journey. In short, there is scarcely a spot within three miles of the old Fort which the Doctor did not render classic in our estimation by some interesting anecdote of our great revolutionary struggle, so that between the exhilarating effects of the drive over a picturesque and beautiful plateau, presenting almost every variety of landscape scenery, and the various historical reminiscences alluded to, we did not feel the hours passing until it was time for us to prepare to meet the New York train, when the doctor kindly drove us to the hotel, and we took leave of Fort Edward, feeling that the inhabitants of that handsome and thriving village may well be congratulated, as they claim themselves, on having one of the finest and most ably managed educational institutions of its class in this country.

* A lady who spent what she calls the most unprofitable year of her life at the Nyack Institute happening to see the above, remarked to us, with considerable feeling, "You run down pork, goat, and horse flesh. Well, I am no admirer of any of those articles, but at Rockland Lake we often wished for the worst of them in preference to the hateful cow's liver and still more hateful sausage which were the staple viands at that institution!"

On our way homeward we spend the night at Hudson, so that we may reach Claverack College in the morning before the recitations commence. We find the president newly decorated by our mythical State University with the title of Doctor of Philosophy (Ph. D.), and in excellent humor. According to a shrewd villager whom we happened to meet at the station, his full address now is "Rev. Dr. Brigadier-General Alonzo Flack, President of Claverack College and Hudson River Institute." Be this as it may, the head of the institution received us very politely; nay he went so far in his courtesy as to invite us to read the Gospel of the day to the students, male and female, at morning service; but we, sensible of our lack of sanctity, begged leave to decline the honor. We certainly have no disposition to say an unkind word of either Dr. Flack or his College; but there would be no use in our spending our time and money in visiting the latter, especially as we have not much of either to spare, did we fail to give our opinion of it, at least in part. As at the Fort Edward Institute, both sexes recite together in the same classes; but, unlike Fort Edward, Claverack has a "military organization."

We have already given our opinion of other differences between these two institutions, and we are sincerely unwilling to enter into particulars. Most cheerfully do we say that a certain amount of knowledge is communicated at Claverack, but if we compare it to that communicated at Fort Edward Institute, at Riverview Academy, at Poughkeepsie Female Academy, or at Mount Pleasant Academy, it reminds us too forcibly of the line in Dryden—

"Dim as the borrow'd beams of moon and stars."

The Rev. Dr. Flack has kindly sent us a copy of his last catalogue by mail, but we regret that we find in it nothing to alter the opinion which we could not help forming in the class-rooms of his institution. Its effect on us ought perhaps to be different, but we can only exercise such judgment as we happen to possess, however defective it may be. The fairest way, we think, is to let the pamphlet speak for itself. Then,

among its leading precepts is the following:—"The obvious necessity for a general and thorough military knowledge can be supplied solely by making it a part of student life" (p. 16). This must make a deep impression on the young ladies of Claverack, especially on the rougher and braver part of them. It is certain, however, that the Rev. Dr. Flack is very careful of both male and female students. That even their baggage is to him an object of pious solicitude, may be seen from the following graceful "regulation":

"Twenty-five cents will be charged for bringing each Student's baggage from the station, and the same for returning it there." (*Cut.* p. 22.)

If it be borne in mind that the station is about a hundred yards from the College, this must seem very liberal and very kind! although some are ill-natured enough to say that it is very shabby. Be this as it may, we were informed confidentially, at Claverack, that the Rev. Dr. Flack would be nearly as great an educator as he claims to be, if he were only a trifle more learned than he is, and a trifle less fond of money. While revolving this observation in our mind, and comparing it with the baggage tariff, we happened to cast our eye on a column of the New York Herald headed, "The Appropriation for Academies Lost," and we read as follows in the Albany correspondence of that journal:

"THE WAY THE MONEY GOES.

"In view of the late revelations made in the *Herald* of the way the money goes that the people contribute to the charities of New York, it was interesting to hear the statement of Mr. Beebe, of Sullivan, in opposition to the appropriation for the academies. He said that the *Claverack Academy*, which received last year \$4,000 from the State, spent out of that sum only \$350 for purely educational purposes, the rest of the money going into the pockets of the managers. If he had time he could show that the State appropriation was swallowed up in the rest of these academies in providing luxuries for the folks who conducted them. The result of the debate was that the entire appropriation was stricken out without much time being lost, and the bill accepted. The general appropriation bill, as passed by the Assembly, with \$125,000 to academies stricken out, foots up to \$712,360 less than it did last year."

Far be it from us to attribute avarice, or greed, or extortion,

or even undue parsimony either to the Rev. Dr. Flack or to any of those of his educational brethren, whether clerical or military, whose institutions we could not admire. It is for us only to record the facts as we find them, taking the liberty, here and there, to give our humble opinion as to their nature and tendency. It is almost needless to say that in attempting to give an outline of the characteristics of so many institutions in one article, it would be impossible for us to present to our readers all the circumstances and data upon which our opinions of the good, bad, and indifferent are based. But we have carefully noted all; nor shall we fail to preserve our notes for future reference. In the meantime we can truly say that none would be more sincerely glad than we to learn that an improvement had taken place in any of the schools which we have deemed it our duty to denounce as impostures; nor are there any to whom it would afford more pleasure to proclaim that improvement "to all whom it might concern."

- ART. VII.—1. *The Writings of George Washington*. Being his Correspondence, Addresses, Messages, and other Papers, Official and Private, selected and published from the Original MSS., with a life of the author. Notes and Illustrations by JARED SPARKS. 12 vols. Boston, 1837.
2. *Correspondence of the American Revolution*. Being Letters of eminent men to George Washington, from the time of his taking command of the army to the end of his Presidency. Edited from the Original MSS. by JARED SPARKS. 4 vols. Boston, 1853.
3. *The Life of George Washington*—Commander-in-Chief of the American forces during the War which established the Independence of his Country, and the first President

of the United States. Compiled under the inspection of the Hon. Bushrod Washington, from original papers bequeathed to him by his deceased relative. By JOHN MARSHALL, Chief-Justice of the United States. In 5 vols. 1804.

4. *Life of George Washington.* By WASHINGTON IRVING. 5 vols. New York.

WASHINGTON is the greatest character that America has produced. He united those attributes that constitute him one of the great men of the world. He organized a nation. He established a republic. He voluntarily withdrew from public life as soon as he found it stable. By his disinterested course, for twenty years, he inspired America with his great qualities. He is thus the father of the republic; and he must ever remain the model character, because he was tried by greater exigencies than other men, and always rose superior to the exigency in which he was placed. Adams, Jay, Jefferson and Franklin, acted a great part in the Revolution; but independence would not have been achieved without Washington; and we should have fallen a prey to anarchy without him. So Washington raises our ideas of greatness by that union of prudence, judgment and disinterestedness which we find blended in the characters of few great men of the past. He was not ambitious like Cæsar and Napoleon, who destroyed their country for their own glory; Washington was content to raise America.

His struggle was like that of Frederick the Great, for his country, and each left a country. But Frederick dissembled, broke faith, and dimmed his renown; while Washington never deviated from the purest principles by which nations are governed. So if Washington has not the military splendor of Frederick, Napoleon, and other great captains of modern times, he yet possesses a moral grandeur that they never attained, and sheds an influence upon the world that elevates and improves it. Such a noble character has America produced, and thus it is fitting that he stand first in that galaxy of great men that

ever surround him and set off his greater glory—a glory not tarnished by one selfish or ignoble act.

Washington became a military hero. He was nominated to the command of the Continental army by John Adams at the age of 43. He consented to serve upon the condition that he was to receive no pay; but to be reimbursed for his expenses alone. That account was strictly kept for eight years in his own journal, and that expenditure was returned him. La Fayette performed the same magnanimous services for America; besides, he lavished his own fortune in our cause; and he was afterwards repaid by the gratitude and generous offering of this people, when he re-visited America in 1824. Shoulder to shoulder La Fayette stood by Washington, through the trying scenes of the Revolution, when America was too poor to even clothe and provide for her common soldiery. He came to our shores at his own expense when our coffers were too slim to give him aid; and thus he is worthy of comparison with our own Washington in the generous aid he gave our country. He was always trusted and confided in by Washington, and was made a leading general in our armies, which position he held and ably sustained until the surrender of Cornwallis at Yorktown. La Fayette stood firmly by Washington during all disasters and intrigues to displace him, and thus he had a claim upon Washington never forgotten in succeeding years.

Washington held the chief command to the end of the war, and surrendered his commission to the Congress from whom he received it eight years before. He had taken the command after the British army had gained the victory at Bunker Hill and were in full occupation of the city of Boston. He found scattered and undisciplined forces without any organization. He had them to create and organize. Without adequate appointments, and without the means of providing for his men, his aim was, first, to utilize a force to resist the enemy. With such scanty material for war, he was embarrassed with constant weakening of the army, as his men were hardly initiated in the art of war before the terms expired for

which they enlisted. Under all these embarrassments, Washington kept up and fought the battles of the Revolution against a well disciplined and appointed army, sustained by a great nation, and led by able generals. His policy was to strike the enemy where he was weak, and protract the war till he wore out the enemy and the patience of the British nation. He never had a force that was able to assume the offensive and follow up his victories until near the end of the contest, when he was joined by the French. But he fought battles that were creditable to American valor, and which reflected the highest credit upon him as a soldier. He displayed, as a great captain, intrepidity and strategy, ever saving his men and husbanding his meagre resources, until the opportune moment arrived to make the victory decisive. He mainly fought in retreat, seldom hazarding a great battle, except in checking the enemy. His offensive engagements, were nearly all successful, because he was rapid in attack, directing his forces with military skill and judgment, and making good his retreat before overwhelmed by superior force. Thus he resisted the advance of the British army at every point, while it had the advantage of water communication. He kept the interior lines, and fell back, when necessary, upon the high lands of New York, New Jersey and Pennsylvania, where his intrenchments are still seen. By great judgment and heroic purpose he thus led the American army, through every disaster and privation, from Dorchester Heights to Yorktown ; where victory perched upon his standard, and forever severed these colonies from Great Britain.

During this period he encountered the enemy in force, while he had to baffle intrigue and discontent, and sustain himself against every disaster. He overcame the enemy, because he had the strength to meet disaster, and inspired confidence in the soldiery and the leaders of the Revolution. He must have been displaced had he not been a man of the highest mould, of the most inflexible purpose, combined with decisive action and noble bearing. His courage and judgment won

our independence. He displayed all the qualities of a great military leader ; and, like Wellington, he finally triumphed. He fought no battles that can be ranked among the great military contests ; because the war he led had no ample proportions to take that rank. Still, if we consider the means under his control, and the enemy that he encountered, together with the duration of the contest, and his final triumph, Washington must hold a high place among the heroes of the world. The same qualities heading a great army, sustained by the spirit of a great nation, would have placed him very high in the rank of great field-m Marshals ; but his renown as a great military leader is not more brilliant than his pure fame as a statesman.

As a statesman Washington possessed all the elements of a great executive, and a wise statesman. For purity of aim and desire to arrive at just conclusions, upon every subject, he is not surpassed in the history of the world. He consulted, and advised, and came to his own conclusions ; he formed this habit in the army, and he carried it into civil life. While his mind was intuitive and certain in conclusion, no one more justly considered and weighed the suggestions of others. He was a strategist in the field, sure and decisive in execution ; but in public life he was direct and straightforward. He had been trained, from the age of twenty-two, to military and civil affairs, serving fifteen years in the latter, and seven in the former, prior to his appointment as the great military leader of the Revolution ; and thus he imbued his compatriots with his eminent fitness for the place to which he was assigned. He was appointed General-in-Chief by the unanimous consent of the Continental Congress in 1776 ; he was unanimously chosen by the Convention, that framed the Constitution, to preside over its sitting, in 1787 ; and twice he was unanimously elected President of the United States, by the electoral vote. These evidences proclaim his hold upon the country, and his undisputed merits. Thus even and well balanced, he laid aside the sword, and helped to lay the foundation of a general government, then indispensable to our

stability and prosperity. He saw and fully realized, through an eight years' war, the inadequacy of the Confederation for the purposes of a general government, and early made known his opinion that we should form a more perfect union of these states. He favored the adoption of the Constitution, and said as he signed that instrument, that the states had now the last opportunity to cancel the confederation in peace, or it would be cancelled in war. It seems most strange that there should have been any division among statesmen as to the worthlessness of the Confederation, and the necessity of a more efficient central government. Washington and Franklin threw their influence in favor of a constitutional change, and the adoption of a stronger government; and thus they supported the Constitution in that great convention called to amend the articles of the confederation; and they were sustained by the great talents of Pinckney, Randolph, Madison and Hamilton. The Constitution having been adopted, Washington was chosen the first President, and soon entered upon that great office, with Jefferson, Knox, Hamilton and Edmund Randolph for his cabinet.

A new and untried system was to be put in operation, and thirteen states watched the experiment with jealousy. But Washington selected his cabinet so wisely that there was little partisan division during his first administration, and it was hardly felt at the time of his second election. Still there had been from the beginning a marked difference of opinion between Jefferson and Hamilton as to the policy of the general government, and the expediency of the leading measures of the administration.

The views entertained and advocated by Hamilton prevailed. This ultimately led Jefferson and Madison into a new party at the end of Washington's administration. But his prudent course kept the country from falling under partisan influence for nearly eight years, until the French Revolution broke in upon and divided us as to the course we should adopt toward France. Washington maintained a neutral course, and this produced a wide discontent on the part

of the partisans of France. It was thought that we were under obligations to France growing out of the Revolution, which were recognized by an existing treaty. This, with the internal divisions, divided the country into the federal and republican parties. During the heats of these times Washington was himself denounced and defamed, as being a monarchist and a British sympathizer. Thus he saw verified the truth that no purity, no services howsoever disinterestedly rendered a country by its best men, shall escape unscathed and unsullied the foul breath of calumny. Washington keenly felt the injustice of those attacks, and noticed them in a becoming manner in his farewell address, but which was obliterated at the suggestion of Hamilton. He said that services rendered his country from the prime of his life, in obedience to the call of the nation, should have protected his good name. The last act he performed before he retired from the presidential chair was to deposit a paper in the office of the secretary of state, denying all knowledge of those letters alleged to have been written by him, in favor of England, which first appeared in Great Britain ; but Washington stood too high to be injured by this calumny and impeachment of his fidelity to the colonies. He left this paper to vindicate his character.

Thus we find him firm in his course, wise in policy, and comprehending the necessary steps to be taken to place his country on a national and secure basis. Under his lead the the confederation disappeared ; and with his strong arm the Constitution went into full and complete operation, giving us tranquility at home and peace abroad. He repressed insurrection in Pennsylvania, and upheld our rights against foreign nations. He accepted the necessary measures to regulate our commerce and establish a sound national currency, and thereby remedying the evils that had existed under the confederation. With the aid of Hamilton's prolific genius, the productive energies of the country sprang into life. Thus began a republic of four millions, eighty years ago, stretching along this side of the Alleghanies, and which now extends from ocean to

ocean, comprising ten times that population, and still increasing with a rapidity hitherto unknown to civilized states. Such a country is now a fact among nations, and it is known to the ends of the earth as the land of Washington.

Taking the range of Washington's influence by the vast results with which he is connected, he was the most fortunate of men. Loved and idolized in his own age, he is now revered among civilized states as a great, wise, and just man, such as the ages have hardly repeated since time began. If we approach him more nearly, and scrutinize his character and his conduct, we see no flaws, and hardly an error in his career. Modestly he assumed every great office that he ever held, and when his term expired, he laid down the emblems of office with real satisfaction that he was relieved from weighty obligations. Such was a marked trait in the character of Washington to the end of his career.

When we survey his early life, we could hardly expect so consummate a character to arise from his meagre opportunity. His was the school of discipline, and not of acquisition. He was reared amid the elegant refinements of Virginia, where good breeding and solid worth impressed all her great men. Under these benignant influences Washington's character was formed. His education was exceedingly practical, and limited to the most essential branches. He became a surveyor for a time, but always had the best associations of Virginia, and was a gentleman of refinement. He was exact and punctilious in his course of life, disingenuous, and a model of the strictest integrity. He was born and educated among men of refinement, and the domestic influences of home early impressed and elevated his noble character. He made such studies as became his position; and acquired a correct and perspicuous style which is seen in all his writings and correspondence. He wisely accepted aid in drafting his most important state papers. Hamilton put in shape much of the Farewell Address, from the suggestions of Washington. Everett did the same thing in the Hulsman letter, at the request of Webster. Both, however, finally wrote out these productions

themselves, retaining the larger part thus furnished them. Indeed, these papers were well considered and revised by their actual authors. Washington gave Hamilton an address drawn by Madison at his request, some time previous, and accompanied it with other suggestions that he wished the address to embrace. The address embraced these suggestions, with few exceptions. Webster used the draft of Everett and that of the assistant secretary of state, Mr. Hunter, as the basis of that important letter. But Washington's writings show that he took the larger part in the framing of the Farewell Address, if style is the test. He certainly had a more diffuse style than Hamilton, and this address is not just like anything we find in Hamilton's writings. So we say of the Webster letter; it is not equal in strength or style to his own letter upon impressment; though it is among the finest state papers of Mr. Webster.

But Washington is to be studied and admired for his great personal qualities and manhood. He was in actual affairs both military and civil, at a very early age, and passed his life in the service of his country. Like Jefferson, he never made set speeches in legislative bodies: still, his influence was felt, and he was regarded as a man of the best judgment and foresight. He thus had influence upon affairs, like Samuel Adams in the first Congress, of which Washington was also a member, when he was chosen to take the chief command of the rebel army. Thus his life took him away from sedentary pursuits and made him what he was, a man of action. Yet we see him in after years always seeking retirement, and pursuing those delightful and useful studies that so much adorn and set off a virtuous and illustrious life. From this retreat he was long delayed, by the demands of the country, against his own wishes.

Washington was a man of inflexible purpose and of the strictest morals. He was a devout man, always observant of the rituals of religion; and in the darkest hours of the Revolution he was seen, under very impressive circumstances, to withdraw himself and alone to enter into silent prayer. Upon

another solemn occasion he exhibited his devotional feelings; and his frown became a rebuke. It was in the convention that framed the Constitution, when discord hung over it, and when a member objected to Dr. Franklin's suggestion that the convention should be opened with prayer. But Washington was no formalist. He looked upward for wisdom and light. Thus he possessed an elevated moral nature that kept him inflexible and just through all the exigencies of life. To this moral grandeur he added a strong and clear understanding that was never deceived nor misled. His understanding was exact and unmistakable in conclusion. His mind was equally comprehensive. He was precise in execution and details; by habit punctual. His reprimand to Hamilton for a few moments' delay in meeting an appointment caused Hamilton to leave his military staff. Thus we find Washington methodical and exact in all the details of business; while he was observant of all the proprieties of social and official intercourse. But he had strong and ardent friendships and a warm heart, somewhat concealed under his dignified manner. His person was of the finest mould, and exceedingly commanding. He had elegant and courtly manners; and appeared as though born to command. The statue of Houdon, at Richmond is regarded as a faithful likeness of our great military chief. To the impressiveness of person he united an amiable and composed temper, that, under great excitement, exhibited impetuosity of manner. So, taking Washington all in all, in his general character we shall not look upon his like again; and no other succeeding man will have such an opportunity for distinction until the political elements shall dissolve and seek a new formation. Thus Washington will remain in our history, unapproached and unapproachable, as a grand and noble character, in which all the virtues so mixed as to make him the most symmetrical personage that has yet appeared among men. Fabius was patient, Aristides was just, and Cato was noble; but Washington blended all in one, and stands out in the full blaze of modern light, resplendent and immortal.

If it be asked what is the basis upon which this great fame

reposes, it is sufficient to say that he comprised in himself the virtues of a great military leader. He liberated thirteen colonies and made them a nation. Vested with despotic power, he returned it to the people. He chose a republic instead of imperial and personal aggrandizement. He consented to hold office so long as the interests of the country demanded, but no longer. These were high principles of action in any age, and would stamp any man as great. Besides, Washington set an example of administration that was pure and elevated. No corruption ever found place under his rule. He sank not to the grovelling level of partisan politics, but repressed party and faction by the majesty and weight of his character. His appointments were pure and elevated; and this example is not lost to the republic, though degeneracy has reached it.

Washington was tried, and proved equal to hold the reins of government just and even in every exigency. He kept peace with France without debasing the nation. France could not demand that we should become a party to European war. We owed no such obligation to her, and Washington steadied the helm of state safely through all these perils, when we were weak.

He also taught us the love of liberty and of country, and the necessity of integrity in a republic. He showed his respect for man and free government, and his desire that it should be a success in America; and had we found a Washington to succeed him, there would be no question of the value of self-government to mankind. Thus his elevated course will ever illustrate the principles that he held and embodied in his administration of the government, and endear him to all future generations. He thus taught, by the wisdom of his action, rather than by any set theories, and so we see Washington mainly in his example and his teachings upon actual affairs. He laid down in his farewell address these sound maxims, then essential to our preservation: that we enter into no entangling alliances with foreign nations; that we repress party rage and sectional feeling, and above all, that we cherish the union of these states, as the palladium of our liberties, and our only hope.

So Washington stands an elevated and illustrious character, ever changing our ideas of greatness; and teaching us that they alone are great who toil for the advancement and preservation of the race. As those heroes and statesmen who take this rank rise far above the vulgar great, whose principles are success at the expense of mankind, and who rule nations for selfish ends, so we place our Washington alongside the select few—the heroes and sages of other lands—and the association of his name pales no glory of theirs. But it is said that other men have been connected with greater events, and more brilliant deeds than Washington, and it must be allowed that such was the case. Still, if we give him credit for what he accomplished for America and the human race through the success of free government here, we need not shrink to compare him, for the good he has done, with the most brilliant heroes who have awed the world with their splendid achievements. We are awed by the sublime genius of Napoleon, but we see France subjugated by combined Europe to check the audacity of Napoleon. He sunk France in his own egotism, and justly fell and lived an exile. Cæsar achieved military glory of the first order, but he destroyed Roman liberty and the Republic in violating the laws and the Constitution of his country. They led great nations to their own defeat and disaster, while Washington united feeble colonies and made them a nation. If we measure Napoleon by his deeds he is the hero of modern times; but if we compare him with Washington by the benefits he conferred upon his country and the example he gave the world, Washington is greater. One dazzles by his genius, and the other commands by his character, and while we contemplate them, we call one the destroyer and the other the benefactor of his race. So in the just estimate of events, Napoleon did not save France, while Washington can almost be said to have created America.

But it may be questioned whether Washington accomplished all this! Surely it was not in his power to have acted the part of Cromwell and Napoleon. He could not have established an empire, though we were educated in all

the traditions of England, and Washington was in his position in the line of succession. Suffice, however, that he repelled with sternness and decision every advance to personal government, and led the dream of other ages to the founding of the model republic, which still lives under his influence and example. He saw that the new government must be confided to the people, and he sought to found it upon justice and enduring principles. Thus, it is just to say that America rose with his destiny and in a large measure owes its fortune to him. So his work liveth after him ; for it still stands strong and durable, and it is the prayer of every true American that this may never be a land unworthy the pure fame of Washington. When we find such virtues combined in such an exalted character as that of Washington, it suffices that we pronounce his greatest praise by the simple narration of the outlines of such a life and thus we need no set words to display his glory, and affix to his name an undying renown. Though others may have surpassed Washington in military glory, yet who among men united such integrity and disinterestedness in his whole career. Duty was the great principle of his life, and the firm application of this principle in the whole course of his career constitutes his distinguishing excellence above the low and vulgar great of the world. Here lies his greatness ; for he brought into action a strong, cautious but clear intellect to guide his difficult course in all the trying exigencies of the country. Thus Washington's example inspires mankind to good deeds.

NOTICES AND CRITICISMS.

SCIOLOGISM.

The American Cyclopædia. Revised Edition. Vols. I, II, III, IV.
D. APPLETON & Co. New York. 1873-74.

It is now about eleven years since the "New American Cyclopædia" was completed. The merits and defects of that work we have not failed to set forth, from time to time, to the best of our humble ability, as occasion suggested; and with regard to this "revised edition" of the former work, we shall not withhold the expression of our opinion.

The preface, is a somewhat grandiloquent performance, calling attention to *signal developments*, which have taken place in every branch of "science, literature and art," and explaining that "the illustrations which are introduced have been added, not for the sake of pictorial effect," etc. * * * "As far as was consistent with the nature of the case, they (the editors) have confined themselves to the *historical* relations of facts, without assuming the function of advocates or judges!" As though *history* were not different from mere chronology, in being a *judicial* estimate of the value and significance of facts!

The preface closes with the remarkable assurance that the work "will be completed *mainly* by the same writers whose contributions are contained in the first edition, together with *many others* of equal ability," etc.! The italics, of course, are ours.

Throughout these introductory remarks there is a studied belittling of the poor, old defunct Cyclopædia, whose fame was once blown through all the trumpets of advertising journalism, and which so many deluded possessors thereof, must now hasten to dispose of by book-auction, or for old paper at so much a pound! What a pity that so many credulous enthusiasts went to the additional expense of "half Turkey Morocco binding, or full Russia—or full Turkey Morocco!"

In the long list of contributors whose names are brandished in the "Specimen Pages," we notice the names of several distinguished gentlemen, who have been dead for a period of years: it is a little odd that their names are still, by implication, connected with this "revised" edition, "forming in fact," as the preface assures us, "a new Cyclopædia!" But perhaps the actual contributions of Professor Felton, for example, or Frank Forester, or Thomas Starr King, were so inconsiderable that the retention of their names is of as much real significance as was their original use.

But the high-sounding phrase of the editors' manifesto is "cold modesty," beside the magnificent statements of the publishers on the fourth page of the cover of "Specimen Pages." With bated breath we read that "the American Cyclopædia is *sold to subscribers only*," that "it will be completed in sixteen large octavo volumes," etc., etc., the

whole costing the publishers, before the manufacture begins, a sum *exceeding three hundred thousand dollars*," that "the BEST CYCLOPÆDIA EVER PUBLISHED, one that *will supersede all others*, is now offered to the public at a very moderate price, *less than one cent a page!*"

"Just think!" is the pathetic and insinuating suggestion of the publishers' concluding exhortation, "just think! *a saving of ten cents per day*, the price of a cigar, or many other expenditures for luxuries or frivolities of a like amount (the appeal, as will be seen, though fervid, is a little mixed in construction at this point), would pay for a complete set of the Cyclopædia by the time of its completion."

It will be noticed that some of these enthusiastic statements are highly improbable. "The best cyclopædia ever published, one that will supersede all others!" exclaim the publishers. The editors' tone is not quite so lofty; they evince a little more regard for truth. "In a work formerly intended for *popular instruction and entertainment* (the italics are ours), it is obvious that elaborate treatises on the subjects which are brought forward in its pages, would be *inappropriate*."

Ah! we see and understand at last! It is a *popular Penny Cyclopædia* that we are offered for the modest sum of five dollars a volume, *extra cloth*, or ten dollars "*full Russia*." Now we understand why the pictures of the Natural Bridge of Virginia, of Cincinnati, of Chicago, "after the fire," of Professor Longfellow's House, of the Atlantic Dock, and of birds and beasts, and of creeping things, and fowls of the air, are introduced.

We fear this attempt to blend *picture book* for children of all ages, and for old ladies of both sexes, with *cyclopædia* for students and intelligent men and women (who alone use a cyclopædia) will result in a more ridiculous failure even than that which befell the "Great American Cyclopædia," of ten years ago, now, alas! quite defunct.

"Lost to life and use, and name and fame."

In one of Wilkie Collins' books is described a clever adventurer, who, on one occasion, when questioned as to his proper business, remarked, that he was "a moral agriculturist—he sowed and reaped mankind." It was a frank avowal of a profession, not yet wholly fallen into desuetude.

Some time ago it was the custom of "enterprising" publishers of new school-books, among other expedients, to offer to introduce them at half price, or by partial payment for the books displaced; nay, we suggest in all kindness, to the happy publishers of "the best cyclopædia ever published, one that will supersede all others," that it would be a graceful thing to offer to all *cash* buyers of the *new* to take back the old, and (by the editors' own showing, as well as by the universal testimony of scholars) now worthless, Cyclopædia, at, say half price!

This valuable suggestion we make, not in the interest of the present

unfortunate possessors of the former edition—they are out of pocket enough already, and this arrangement would still further deplete them, with small accruing advantage—but solely in the interest of the enterprising publishers, and to help to make business a little livelier. The plan might not succeed, but is it not worth trying?

With these general remarks, which we shall take occasion to follow up later with specific comments, we take our leave for the present of the “revised edition;” not, however, without asking everybody to admire the industry with which nine-tenths of those obsolete old “cuts” have been gathered up from a thousand sources to please the *little ones*!

SCIENCE.

The Structure of Animal Life. Six Lectures. Delivered at the Brooklyn Academy of Music, in 1862. By LOUIS AGASSIZ. 3d Edition. New York: Scribner, Armstrong & Co. 1874.

TO THOSE who mourn in the death of Professor Agassiz the loss of a revered teacher not less than of a world-famous investigator, these “formal utterances,”—to use the phrase of the publishers’ note,—will come like the familiar and invigorating breath of the glacier to the jaded Alpine climber. To the *savant* they naturally offer nothing new, being only the felicitous and circumspect presentment of a few accepted facts, drawn from the *repertoire* of natural history and paleontology, and, with thoughtful consideration for the finite powers of a popular audience, forced in advance from dusty difficulties of formula and symbol.

The general reader, may, from the perusal of these lectures, acquire a clear but necessarily circumscribed idea of the system of *permanent structural types*, upon which rests the modern classification of animals;—he may also learn something of the manner in which the question of degree of “structural complexity” is applied to type, class and family, and made the authoritative list of rank. In the first lecture we meet the not unfamiliar radiates, mollusks, articulates and vertebrates. The type-characteristics of these classes are enumerated, and explained, and it is sought to show that the creative “plan” thus shadowed forth can, in the case of any given type, be recognized and traced in all allied families.

In the second lecture the theory of *Evolution* is arraigned. The individuality and performance of type-forms, asserted, as is claimed, plainly and dominantly throughout the structural range of genera and

species, are brought forward to testify against evolution. On this point we quote, as the lecturer's conclusion:

"So we have here two classes, which are strictly parallel in their gradations, having the same features with certain modifications of structure. And such a parallel series you find everywhere among these animals.

"So that the truth, as regard series, is this: that instead of one grand uniform succession from lowest to highest, there are certain broken series within the minor groups, in which it is possible to trace more closely and intimately links of subordinate series."

In the third lecture we find a painstaking man of science seeking to bring an audience,—drawn together to hear the "Graham Lectures on the Power, Wisdom and Goodness of God"—tenderly and without shock to their theology, up to the point of accepting with all its awful consequences the idea that the coral reefs of Florida point unmistakably to an antiquity considerably exceeding the Mosaic six thousand years!

In the fourth lecture we enter the field of physical agencies, and are shown how the mountain-slopes not only reveal the nature and contents of the lowermost strata, but afford us a comparative chronology, while the strata, Azoic, Silurian, Devonian, and the rest, being duly labelled and paged, are laid aside for daily use.

In the last two lectures, the fifth and sixth, Prof. Agassiz discusses that phase of his subject which involves the existence of Providence in nature, "or in other words, the recognition, on scientific grounds, of the working of a Providence in the world." "If nature," he says, "as we see it manifested in the facts I have presented, is the result of the working of mind, the result may have been accomplished by one of two methods, namely: 1st, By established laws; or, 2d, By direct action." Concluding this *résumé*, we may quote from the concluding lecture:

"* * * Facts like this, I think, show the immediate working of mind in the construction of the animal kingdom. It is not a kind of work which is delegated to secondary agencies; it is not like that which is delegated to a law working its way uniformly; but it is that kind of work which the engineer retains when he superintends and controls his machine while it is working. It is the evidence of a Creator constantly and thoughtfully working among the complicated structures which he has made."

It will be noticed that these "formal utterances," of twelve years ago, be it remembered, wholly refute the charge that Professor Agassiz was unfairly reticent concerning his own belief or system, while using the weight of his name against every suggestion of the theory of development. Frequent and unmistakable are his declarations upon the points at issue.

We venture, in conclusion, upon a single suggestion: In discussing "gradation of the animal kingdom," the lecturer makes the statement embodied in our first quotation, and further on in the same lecture he

uses the following language: "Thus the classes are interwoven, as it were; "when you take the essential features of structure you bring them together; when you consider the external form only, you have yet recognized relations which escape in the other combination. * * * It is only in the minor divisions that we find a natural gradation, not in the arrangement of the whole group. The classes are superior or inferior to one another on the average, but not by such an arrangement as would place them in one serial order."

Now, would not the sanguine Darwinian plausibly insist that in these parallel series there was something very like "survival," and, in the natural gradation in minor divisions, a manifestly established "development?"

EDUCATION.

An Exposition of the Constitution of the United States. By HENRY FLANDERS. 12mo, pp. 295. Phila.: Claxton, Remsen & Haffelfinger. 1874.

A SECOND title printed on the cover, which informs us that this book is a Practical Handy Book of the Constitution, is a truer definition of what Mr. Flanders has accomplished than that on the title page. Viewed in this light, it is a book which it is as impossible to blame or praise as a proposition of Euclid. It is short, reasonably concise, unimpeachable in its accuracy; it makes no claims to originality; it avoids discussion, and, from the nature of the subject, is necessarily somewhat dry. It would suit quite well for a text-book in a school, in the hands of a teacher well versed in the subject by study of more exhaustive treatises; and it avoids the danger of that reaction which frequently arises in the minds of the students of Story, from imitation of that eminent commentator's too constant praise and admiration of his subject.

But with the exception that it includes the Fifteenth and other amendments which owe their origin to the late war, and notices legislation as late as 1871, it is not superior to Judge Story's work; but it would be unfair, perhaps, to demand of Mr. Flanders the extensive legal and constitutional lore displayed by that distinguished jurist.

During the early years of our government, the questions arising under the Constitution were, whatever may have been their importance, of comparatively easy settlement. The sailing, for the most part, was plain. But the civil war—it is impossible to deny it—put a severe strain, not only upon our resources and material, but upon the civil agencies of our existence and on the Constitution itself. The Constitu-

tion with which everybody was satisfied in 1850, is viewed very differently in 1870. And great lawyer and indefatigable commentator as Judge Story undoubtedly was, a smaller man now must know many things of which he was ignorant. In other words, we have not yet had determined for us exactly how the Constitution came out of the struggle. To take but one feature, the tendencies of the nation twenty years ago were the reverse of centralizing. To-day, every new measure of Congress tends to centralization. It is not our purpose either to praise or deprecate this right-about-face in our movements, but merely to point out that the Constitution may doubtless receive new light, or new themes regarding it may come to light, when it is viewed from this different ground. Again, the recent amendments themselves have a centralizing tendency; the old jealousies felt by the original members, of their "reserved" rights no longer seem to exist, and this new phase in our politics needs study, explanation, and criticism.

Apart, too, from the constitutional amendments, or the "appropriate legislation" thereunder, it is patent—not to tread upon partisan ground—that there are many disheartening features in our present public condition, which a careful study of our Constitution might remove, or alleviate. It is surely not disrespect to say that there is at least a possibility that an instrument which was, ninety years ago, suited to our population, area, and comparatively simple needs may fail in some respects to be suited to our present vast domains and infinitely complex civilization. And accordingly there is a restlessness abroad which is looking eagerly around for some helping hand to lift us out of our present despondency.

What is wanted, indeed, is not a commentary, nor an exposition, strictly so called, but a thorough, liberal criticism, something such as Mr. Bazehot has lately given the British Constitution. A criticism which is not hampered on the one hand by too rigid a conservatism—for our *laudatores temporis acti* may as well accept the inevitable; we never can go back to our *ante bellum* days—and on the other is safely guarded against all tendency to iconoclastic enthusiasm. It is easy to tear down, but weary work to rebuild, and Mr. Gladstone has received a severe but just judgment on his too constant restlessness, which we, too, may take to heart.

Mr. Flanders, as we have said, does nothing of all this. His book is an explanation, as he says in his preface, "of the reasons upon which each clause of the Constitution rests," and the interpretations given it by the courts and the practice of government.

Besides the Exposition proper, the book has an appendix containing the Declaration of Independence, the Articles of Confederation, the Resolutions and Letter of Sept. 17, 1787, and Washington's Farewell Address. It has also the advantage of a full alphabetical index. In short—to compress our estimate of it into the briefest space—whatever

its defects are, we know no other volume of its size, or twice its size and price, which we would rather put into the hands of young students,—as just what it claims to be—"A Practical Hand Book of the Constitution of the United States."

On Self-Culture; Intellectual, Physical and Moral. A *Vade Mecum* for Young Men and Students. By JOHN STUART BLACKIE, Professor of Greek in the University of Edinburgh. 16mo., pp. 116. New York: Scribner, Armstrong & Co. 1874.

IN Professor Blackie's previous work, published not long ago, entitled "Four Phases of Morals," we made the acquaintance of a clear and vigorous thinker, evincing considerable mastery of his subject, and handling it boldly. In the unpretentious little monogram before us we recognize the same method, and something of the same vigor and perspicacity, touched with a certain brusque earnestness of tone which goes far to convince and persuade. For a volume of so small a compass it contains many wise and practical suggestions to students. The book is divided into three chapters, which are devoted respectively to the culture of the intellect, physical culture, and moral culture. Nearly half the volume is devoted to the consideration of intellectual culture. The author begins by arguing that books, though very useful helps to knowledge, are never the primary and natural sources of culture; which are, life, experience, personal feeling, thinking and acting.

When one starts with these books, he admits he can fill up many gaps, correct much that is inaccurate, and extend much that is inadequate; but without living experience to work on, books, it is urged, are like rain and sunshine fallen on unbroken soil. "The parchment roll, is that the holy river, from which one draught shall slake the thirst forever? The quickening power of science only he can know from whose own soul it gushes free." This point he clarifies and enforces by the following illustration:

"As a treatise on mineralogy can convey no real scientific knowledge to a man who has never seen a mineral, so neither can works of literature and poetry instruct the mere scholar who is ignorant of life, nor discourses on music him who has no experience of sweet sounds, nor gospel sermons him who has no devotion in his soul or purity in his life."

He therefore earnestly advises all young men to commence their studies, as much as possible, by direct observation of facts, and insists that those studies, both in school and college, be regarded as primary, that teach young persons to know what they are seeing, and to see what they otherwise would fail to see. Among the most useful of these he reckons botany, zoölogy, mineralogy, geology, chemistry, architecture, drawing and the fine arts.

Prof. Blackie is not likely to express, like our old friend the German linguist, upon his death-bed, with the last sigh that flutters up from his lips, the sole regret that burdens his departing spirit—"that he has not given the last twenty years of his life entirely to the Optative Mood!" Truly, "the thoughts of men are widened by the process of the suns." But, on account of the multiplicity and diversity of objects in the universe, the observing faculty would be overwhelmed and confounded, did we not possess some sure method of submitting the multitude to some regulative principle placing them under the control of our minds. This regulative principle is *classification*, and is discoverable by human reason, because it clearly exists everywhere in a world which is a manifestation of divine reason.

This classification depends on the fundamental unity of type which the divine reason has imposed on all things. This unity manifests itself in the creation of points of likeness in things apparently the most different; and it is these points of likeness which, when siezed by a nicely observant eye, enable it to distribute the immense variety of things in the world into certain parcels of greater or less compass, called genera and species, which submit themselves naturally to the control of a comparing and discriminating mind. "The first business of the student, therefore," says our author, "is, in all that he sees, to observe carefully the points of likeness, and, along with these, also the most striking points of difference; for the points of difference go as necessarily along with the points of likeness, as shadow goes along with light." He further advises the student to observe only one thing at a time, since looking at everything generally ends in remembering nothing.

The author proceeds to give some hints, more or less valuable, on the training of the reasoning faculties, on the study of logic and metaphysics, on the exercise of imagination, on the discipline and storing of the memory, on style, on the wise use of books, on professional reading, or *Brodstudien*, as the Germans call it, and some suggestions as to the acquirement of languages.

Dr. Van Norman's Classical English, French and German Family and Day School for Young Ladies. Organized in 1857. Brochure, pp. 29. New York, East 61st Street. 1873.

A FRIEND of education has recently placed this Catalogue in our hands with the request that we give our opinion of it in a quiet way, for the benefit of the good cause. Well, it is quite a pretty thing outside, and quite a curious thing inside, for it has an illuminated cover, and the words transcribed from it above are printed in golden letters, while the matter under the cover is still more transcendental in its way. But

before we attempt to give any idea of the peculiar character of the latter, let us pause for a moment to wonder whether this can be the same institution which used to be called "The Van Norman Institute." If it is, and there is some internal evidence that such is the fact—the natural conclusion would be that the principal and owner thereof has become somewhat more modest than he was two or three years ago.

At all events, if we are to judge from the lofty tone of the Catalogue the change of name cannot have resulted from degeneracy or deterioration. In proof of this we need only mention the different grades of "Undergraduates," namely: "Senior Collegiates," "Middle Collegiates," "Junior Collegiates," "Introductory Collegiates," "Senior Academics," "Middle Academics," "Junior Academics," "Senior Primary," "Junior Primary," "Eclectic."

We should like to know what university or college, male or female, American or European, can boast a larger variety of high-sounding titles for its undergraduates! The undergraduate must be very ambitious, indeed, and hard to be pleased who would wish a higher title than "Senior Collegiate," or "Senior Academic;" but which of the two is the highest grade in East Sixty-first street, is one of the many things of which we are ignorant. According to the author of *Zaire*, we should therefore give ourselves no trouble on the subject—

"On ne peut désirer ce qu'on ne connaît pas."

But this would ignore the existence of a strong human feeling; and the ladies, who naturally take most interest in female education, are said to be proverbial for their curiosity. However, we must regret our inability to gratify them in the present case. Nor can we tell whether the "Middle Academics" are of a higher grade than the "Middle Collegiates," or *vice versa*; although not only are the names of the students of the various grades given in full, but also those of their parents, or rather of *one* parent for each student, and to this information is added the parent's place of residence! Thus, for example, all whom it may concern are informed that Miss Angelina Smith is a "Senior Collegiate;" under the head of "Parents" we have Mrs. Sabrina Smith and under the head of "Residence," Hoboken. But it would lead us too far to enter into the intricacies of this highly interesting nomenclature; so we beg leave to change the scene, thus abruptly, passing on to the head master's "General Remarks." These commence, it will be seen, in a style quite in keeping with the titles of the different grades of "undergraduates:"

"The School, having secured a permanent location between Madison and Fourth Avenues, only a few steps from Fifth Avenue entrance to the Central Park, and the same distance from the Museum of Natural History, affords, in three connected brown stone front houses, large and pleasant accommodations for both family and day scholars." (p. 2^d.)

This is a pretty good specimen of the "fair speeches and fine promises" which occur in this department. Even the grammar is characteristic. So are the "few steps from Fifth Avenue," the "three connected brown-stone front houses," etc. How many "steps" are "a few?" Are 100 steps? 200 steps? 500 steps? 1000 steps? Then how much is "the same distance" as "a few?" Is it the "location" that is to be "permanent" or the school? What are the essential conditions of permanency in migratory institutions? A little further down, in the same page, we are told that—

"It is pre-eminently the aim and care of this Institution to *inculcate, and to impress* upon the minds of those committed to its training the *principles of courtesy and discretion*," etc.

One would think that it could not be very hard "to inculcate, and to impress upon the minds" of young ladies—especially on those of the "Senior Collegiates" and "Senior Academics" "the principles of courtesy and discretion." Chesterfield speaks of "the principles of politeness," but that accomplished master of ceremonies seems to have been entirely ignorant of the principles of "discretion." In short we regret to say that the logic of the Rev. Dr. Van Norman is too much like that of the dancing master in *Le Bourgeois Gentilhomme*:

"*Maître de dan.*—Tous les malheurs des hommes, tous les revers funestes dont les histoires ont remplies, les bérues des politiques, et les manquements des grands capitaines, tout cela n'est venu que faute de savoir danser."

Most cheerfully do we admit that it used not to be so in times gone by. There was a time when the "Van Norman Institute" not only issued sensible and grammatical catalogues, but gave sound, useful instruction. But alas! for the cause of education, the lady who was vice-principal then got married and went off with her husband. The present vice-principal is, no doubt, a very accomplished lady, also; but, if we may be permitted humbly to think so, she seems to give the Doctor far too much of his own way in the matter of composition, nomenclature, etc. As he claims to be quite an adept in teaching the language of Livy, suppose he be advised to study the following precept of that author:

"*Fraus fidem in parvis sibi præstruit ut, quum operæ sit cum mercede magna fallat.*"

Easy Lessons in Natural Science. Embracing a General Outline of the Physical Constitution and Phenomena of the World, etc. Designed for Schools and Families, by R. E. KREMER, Author of "Bible Gems." pp. 294. Philadelphia: Claxton, Remsen & Haffelfinger. 1874.

ANOTHER path of pleasantness, through whose primrose windings it is claimed that little feet may be brought easily and imperceptibly to scale the arduous heights of science!

Works of this science-made-easy class fall naturally into three ranks—narrative, dialogue, and simple question and answer; and since in this field of instruction the power to excite curiosity and stimulate the imagination is a confessed pre-requisite to success, we risk little in allowing pre-eminence to the narrative form.

That a child of ordinary aptitude, floating with Harry and Lucy along the still waters of English domestic life, may come to feel, reason, experiment and learn, with a "guide" who is also "philosopher and friend," we can all readily believe, and many of us heartily testify; and we do not hesitate to ascribe the considerable popularity of Mrs. Somerville's Dialogues to the introduction of this element of personality and location.

But why any "Outline of the Physical Constitution and Phenomena of the World" should, by being ravelled into nearly four thousand disconnected shreds of fact, become more "easy" or "simple"—(see preface),—or in any way more inviting to a child's mind, we cannot understand. "Science simplified!"—a pleasing notion. Shall we never learn that there is no such thing? We may indeed draw from the broadening web of research the gayer threads for children to play with, hoping to stimulate and give direction to their normal inquisitiveness; but this is selection, not simplification, and our prime object should be rather to develop the reasoning faculty than to distend the memory, and the pupil should never be allowed to forget that each scientific fact set before him, so far from being self-evident and final, drags a long history behind it, and has a beckoning career before it. That it has fallen to the lot of few writers to work successfully in this field need not surprise us, when note is taken of the conditions involved, while the seemingly inevitable *renaissance* in the elementary text-books of to-day even, of time-honored errors and orthodox fables, is less remarkable than discouraging.

To select, and arrange in an approximately rational order, even a few of the most important facts in any branch of knowledge—constrained to avoid, on the one hand, the many statements which even now await revision, and on the other the almost involuntary infusion of one's own incredulity and prejudice, maintaining throughout a visibly presiding idea, by which the student may feel his way—is a problem of no ordinary dimensions and difficulty. And if, with many others, our author has failed of large success, the award due to honest endeavor will not be denied him.

Among the notable shortcomings of the work before us, is one fairly chargeable to the necessary brevity of the answers, namely: the enunciation of half-truths, as complete and final. Thus, in the list of the visible heavenly bodies, the author finds no place for comets. Again, the heat-conductivity of bodies is dwelt upon at some length, but we find no hint of their various heat-capacities. The motions of the earth are by

the same simplifying process reduced to two. Surely any average child could bear without injury the additional idea of the proper motion of our sun and system in space. Nay, is not the child defrauded who is led past this point, learning nothing but day and night, summer and winter?

The height of the atmosphere is given as forty-five miles, while of the widely variant results obtained by different investigators, not a word is vouchsafed. So also, the thickness of the earth's crust is stated at forty-five miles, because at that depth the temperature is presumably such as to melt all known substances, and the thirsty acolyte is left to learn from other sources of investigation which point to a much higher figure.

Our author is no friend of the new chemistry. "Heat is that which causes the sensation of warmth"—also, heat is produced by "caloric"—further, heat is produced by chemical action—"when cold water is poured upon lime." This heat existed, however, we are assured, in the substances already, in a "latent state," and lest some fortunate child should escape the memorizing of this old, misguiding nomenclature, he is told "to rub a button upon a board," when the "latent" heat in the button will become "sensible." When wood is burned, its moisture passes off in vapor, while the other parts "either rise in smoke or fall in ashes," a statement which is antithetical, if incomplete. Finally, we learn with a sense of relief, that "the nature of heat is not fully understood."

Electricity is a "subtle agency or fluid," which "may be excited by friction in amber or glass." To this somewhat meagre catalogue is subsequently added sealing-wax and the back of a cat. As in text-books of the past generation, vitreous electricity is duly credited to glass, and resinous to wax, but which we may expect from the cat is not stated. "All men sprang from Adam and Eve," and why not? "since variety of color seems to depend chiefly upon locality and climate."

"QUESTION—How is this made to appear?

"ANSWER—Persons inhabiting the mountains are usually fair, while others of the same nation who live in plains are very dark!"

After all, how simple is truth? "Sense of feeling and power of motion" are held to distinguish the two kingdoms, animal and vegetable. Is it not a mistake to leave a pupil under the impression that this simple definition is universally applicable? We quote Dr. Carpenter: "In the present state of science it would be difficult to lay down any definite line of demarkation between the two kingdoms. Probably the one most generally applicable is not the presence or absence of spontaneous motion, but the dependence of the being for nutrition upon organic compounds already formed."

We notice a few infelicities of expression, *e. g.*: Snow is a bad

conductor because of having air "within" its crystals. Cleopatra's needles (monoliths) are "noble structures built of granite." "An alloy is a baser metal added to a finer to increase its strength and hardness." Bronze is, then, not an alloy; but which of the two metals composing it (copper and tin) *is*? "Matter exists in the liquid form when its particles move freely *through* each other!" Sponge having large pores is a "rare" substance, *i. e.*, not dense. "Carbon is the solid part of fuel." Among plants we find a class which "furnish clothing."

Of padding there is no lack. The *ignis fatuus* "has proved injurious to mankind by leading travellers into marshy places, where they perished." Our children will learn with interest that "boys and girls sometimes go coasting with their sleds, and make images of the snow." We are also reminded,—and it takes question and answer to do it,—that "snow is an emblem of purity."

Safety during a thunder-storm is to be sought in the middle story of the house (because the lightning may go either upward or downward, making both attic and cellar dangerous), in the middle of the room, *reclining* on a feather bed. "When caught in a carriage, do not lean against the sides." The jaw-bones of the whale are used as door posts. "There are swans to be seen on the Central Park ponds;" we may add, "and milestones on the Dover Road." Newton's falling apple, the apocryphal summersaults of the ibex, and the centennarian elephant do not fail to put in an appearance;—a good word is spoken for the *goose*, which it appears is not at all stupid, and the sorrows of a hen, which has inadvertently hatched duck's eggs, claim a passing tear.

But even the very errors of the book have a tendency to awaken an interest in the young student, and prompt him to research and investigation, while it undoubtedly contains a good deal that is instructive in itself, notwithstanding the little defects and shortcomings we have pointed out.

BIOGRAPHY.

Memoirs of Many Men and of some Women. By MAUNSELL B. FIELD.
Harper & Brothers. 1874.

This book would receive a cordial reception even were its way not smoothed by Mr. Field's graceful caveat in his preface. Perhaps, indeed, he is a trifle too modest, when he disavows any pretensions to having written anything which rises even to the dignity of minor history. His account of the circumstances attending the resignation by Mr. Chase of the secretaryship of the Treasury, for example, is fairly entitled to the consideration of the future historian of our late war, and

his estimate of the character of several of the important actors in our history may very possibly be useful in the elucidation of obscure points.

In a gossipy, discursive way, without laying any claim to chronological sequence, which would be indeed tedious in a work of this nature. Mr. Field gives us anecdotes or scraps of conversations and the like about a variety of men who have made more or less noise in the world. His reminiscences are catholic; they include such opposite poles as the Duke of Wellington and Mr. Donn Piatt; and about such men as Thackeray, Macaulay, Palmerston, Earl Russell, M. Gladstone, M. Disraeli and others in England, Napoleon III., Prince Jerome, the ex-Empress, Guizot and others in France, he has something interesting to say. His position as *ad interim* secretary of legation in Paris brought him into intimate relations with Mr. John T. Mason, our minister to France, and one of the authors, or at least signers of the famous Ostend manifesto and with other public men of that day; and his position during the war, first as deputy assistant treasurer in New York, and afterward as assistant secretary of the Treasury in Washington, brought him into close connection with most of the civil "makers of our history." And sprinkled in with his accounts or anecdotes of these men, are mentions or stories about authors, poets and artists, the whole furnishing pleasant enough reading for a spare afternoon or evening.

Mr. Field writes like a good talker, going lightly from one topic to another, not violently nor abruptly, but not allowing the unities to rest heavily upon him. Most of his stories are new to us, but are exceedingly characteristic of the men. The following story of Charles Dickens bears throughout the traces of the vulgarity and lack of breeding which persons now are learning to associate with that name. Mr. Field, stopping at Cincinnati in the Spring of 1842 was informed that Dickens was to hold a levee that morning, and was invited by a friend to go to it.

"At that time I had the admiration, almost hero-worship for Dickens which was common to all young men in this country immediately after the publication of his earlier works. I therefore readily accepted the invitation, and we were soon in the presence of the distinguished novelist. There were not many persons in the room when we entered. * * Mr. Dickens was standing in front of the fireplace, with his coat-tails under his arms, gorgeously attired, and covered with velvet and jewelry. Mrs. Dickens was lounging upon a sofa at the farther end of the room. We were duly presented by an usher or master of ceremonies, and, after exchanging a few words with the author of *Pickwick*, retired to give place to a little Englishman, who was behind us. When being introduced, this gentleman deferentially remarked 'I had the pleasure of meeting you, Mr. Dickens at Mr. Lover's, in ———shire, two years ago.' Dickens looked him steadily in the face for a minute and then answered in a loud voice, 'I never was there in my life. 'I beg your pardon,' replied his interlocutor, overcome with confusion, 'it was in the winter and' (naming several persons) 'were there at the same time.' Dickens again gave him a withering look, and after a pause, repeated in a still more elevated tone, 'I tell you, sir, I never was there in my life.' Here Mrs. Dickens inter-

posed, and, addressing her husband, said, 'Why, Charles, you certainly were there, and I was there with you; don't you remember the occurrence?' Mr. Dickens glared at her almost fiercely, and advancing a step or two, with his right hand raised, fairly shouted, 'I tell you, I never was there in my life.'

Naturally enough, Mr. Field and his friend retired disgusted, and were disenchanted of their hero worship. Other men have had to learn to give up their admiration for him.

One of the most entertaining parts of Mr. Field's reminiscences is his account of the miseries to which an official of the United States in a foreign country is subjected by thoughtless and vulgar Americans travelling abroad. As we have said, Mr. Field was for a time secretary of legation to the American embassy in Paris, and this is the account he gives of his official woes, an account which even a non-official traveller or resident abroad can easily confirm:

"Hundreds of our countrymen, of proverbial modesty, who were entitled, at the utmost, to have their passports viséd, would ask of us the most unreasonable facilities and the most unheard of favors. Citizens not even accredited by letters of introduction would insist upon private audiences of the Emperor, and, no matter how politely you declined to act as the medium of their laudable ambition, they would anathematize you and threaten to 'go for' your official head immediately after their return to America. Crack-brained inventors would ask you to do the most impossible things for them in connection with the several Departments of the Government, even to bringing them without circumlocution to the fountain of power; and your mildest protests only subjected you to contumely and abuse."

Mr. Field also speaks with, as it were, a pathetic shrug of the shoulders, of his agonies upon the occasion of a state ball, of the pestering for invitations, and the anger of those for whom he declined to do the impossible. We remember once reading in a guide book to Europe, published in New York, an urgent direction and advice to each tourist, to call upon the American official, minister or consul, of whatever city he or she might happen to visit. In our own individual travels, we faithfully disregarded this advice, and thereby, somewhat to our surprise, made ourselves the object of wondering comment. How far the practice prevails we cannot say, but in view of the fact that Americans abroad always seek Americans and Americanisms, even to the extent of buckwheat cakes and pumpkin pies, we suppose it is general. There is nothing to be gained by it, except in case of difficulty, and the amount of boring an unfortunate representative of the United States must undergo in consequence must go far to embitter what one commonly supposes to be a happy and peaceful existence. The strange gregariousness of Americans is an interesting subject of study. Can it be that it implies a lack of personal independence? The subject might be curiously wrought out in the coming intercollegiate intellectual tournament.

BELLES LETTRES.

Phineas Redux. A Novel. By ANTHONY TROLLOPE. Illustrated. (pp. 255). Harper Brothers, N. Y. 1874.

THE volume before us is, we believe, number twenty-seven of Mr. Trollope's novels, which of late years have succeeded each other with astonishing rapidity. "*Phineas Redux*" appeared only a few days ago, and already another is in process of publication. Such fecundity is quite unexampled in literary history. Is there any limit to the productive capacity of this teeming brain? Not long ago Mr. Trollope was producing two novels at a time. May we not look for triplets next?

While George Eliott is meditating a plot for one of her stories, Trollope will have written, published, and been paid for two or three. Of course so enormous a yield of mental product cannot be of a substantial and enduring quality. These books are pictures of English upper middle-class life, clever and discursive, but always superficial; in fact the very apotheosis of commonplace.

A certain good-natured common sense and sturdy optimism pervades them. They show a general knowledge of the world, of men and women, of society, of manners, but not of *man*. The author, with great technical skill, is no artist, but an expert photographer, who takes for us many pictures of faces and costume, but paints no portraits which are "the shape and color of a mind and life."

Now, photography is a very good thing in its way, but it is not one of the fine arts. But we ought not to complain of what is natural and inevitable. We must not expect too much for four pence. If the author is satisfied the reader should be, and *vice versa*. The old proverb—"What will you have? pay for it and take it," is pertinent here.

Mr. Trollope has what he bargains for, and so do his multitudinous admirers. For, though without wit, or humor, or imagination, or insight, he is always readable. His style is easy and pleasant, and his matter sufficiently interesting. Though superficial, he is never stupid, but cheerfully entertains us with the society of highly respectable persons. Dukes and duchesses, earls and countesses, M. P.'s and prime ministers, to say nothing of lawyers and clergymen, greet us familiarly on every page. We feel somehow that we are almost *living* at court.

Then, too, Mr. Trollope is so candid with us. For example, in the present story, honestly conscious of his inability to construct a plot, whose devices shall deceive our judgment, or even hold it in suspense, he takes us quietly aside and uses the following language with regard to a charge of murder against his hero:

"The reader need hardly be told that, as regards this great offense, *Phineas Finn* was as white as snow. The maintenance of any doubt on that matter, were

it even desirable to maintain a doubt, would be altogether beyond the doubt of the present writer. The reader has probably perceived, from the first moment of the discovery of the body on the steps at the end of the passage, that Mr. Bonteen had been killed by that ingenious gentleman, the Reverend Mr. Emilius, who found it worth his while to take the step, with the view of suppressing his enemies' evidence as to his former marriage," etc., etc. (p. 159.)

This engaging frankness, which at once declines to attempt a difficulty, and compliments our discernment, while taking us into flattering confidence, is not without its seemingly contradictory effect of heightening the verisimilitude of the story. We take our leave of Mr. Trollope for the present by remarking, that he emphasizes trifles to a degree that is almost painful. He puts his stern microscopic eyes over everything presented. Afraid to risk a mere hint, he elaborates every description.

As to moral tone, we may safely assert that in all his books—in spite of occasional passages of almost vulgar jocularity—there is really nothing that Mr. Podsnap could rightly object to as "calculated to bring a blush to the cheek of the young person." We would not, therefore, discourage any one from reading "*Phineas Redux*," and we readily admit that it is more entertaining than three-fourths of the novels written and published at the present day.

The Lost Beauties of the English Language. An appeal to authors, poets, clergymen and public speakers. By CHARLES MACKAY, LL.D. (pp. 238). New York: J. W. Bouton. 1874.

DR. MACKAY is an old acquaintance, as a versifier—we can hardly say poet—a compiler of "elegant extracts," an author of books of travel, and *littérateur* in general, but in the department of philology we have never met him before. The introduction, which contains nothing new, that is true, and nothing specially absurd or harmful, is a statement of the fact well-known, and in no wise lamentable, that many English words, once in good use, are now obsolete or obsolescent, and it is argued or implied that all, or most of these, ought to have been retained, and may yet be recovered and replaced, if literary men will only agree to introduce them in their writings.

Poets, especially, are earnestly appealed to to take the matter in hand, and give, we suppose, "a long pull, and a strong pull, and a pull all together," in the direction indicated. The writer argues that the permissible rhymes in the language are not very abundant, and that by this artificial process their number may be increased!

Accordingly, on page 64, he gives the word *flath*, meaning filth, dirt, ordure (Halliwell), and adds: "The rhymes to 'wrath' and 'path' are few, and this might be admitted to increase the number." Hardly *sat rationis*, we should say. Dr. Mackay forgets that language is a

growth, not a thing manufactured to order. The factors of language, the influences which reject and adopt, that mould, qualify and determine words and their uses are so multitudinous and complex, so subtle, delicate, arbitrary and elusive of definition, as to put them beyond the *direct* reach of active conservatism or reform. *Words are for use.* They must stand for something that exists or is imagined to exist.

If the thing named by a particular word ceases to exist, or the given word ceases to reproduce or suggest the given thing to the mind, then the word will drop, first out of current speech, and soon out of current literature. Such a loss of words is a thing neither to be prevented, nor, begging the Dr.'s pardon, to be regretted. Words never meet a violent death; they die naturally. If, indeed, as he affirms, many archaic words "are not dead, but sleeping," and if they really express something worth expressing, which must without them remain unexpressed, they may of course be employed.

Especially would this be true of words, whose "sound is an echo of the sense." Take, for example, the word "clump," to walk heavily and awkwardly; whence clumsy; we might say of a hulking gawky that "he came *clumping* along," and our meaning could hardly fail to be understood, because the term is onomatopoeic. Thus useful words may be incidentally rescued from disuse, but not on principle, and of set purpose. The poet Tennyson, in his earlier verses, introduced a number of obsolete words, and with a measure of success, but (except in the "Idylls of the King," when old words suited the old legends) he has of late years found the modern vocabulary quite adequate to his needs.

Now, to insist with our author, that it would be worth while, or even possible, to disinter and rehabilitate such words as "allwholly," meaning *entirely*, "bedgang," meaning *accouchment*, "blate," meaning *cold, insipid, bashful, modest, shy*; (by the way, which of these meanings should we adopt?)—to attempt to use "busk" for *dress*; "nim" for *take*, "dab" for *dexterous*; "dodder" for *totter*; "leuch" for *laughed*; "hext" for *highest*; and so forth, to the number of thousands—we say to attempt to revive these "*lost beauties*" (?) seems to us so very absurd that we will not discuss it further.

No such process was ever successfully applied to language. There is really no loss in language; what is best, what is worth saying, is always said. *Uaus norma loquendi* was always as true, and is as true to-day as when Horace wrote it.

"Whatever is, is right," is as sound an axiom concerning language as concerning the government of God, or the laws of nature. We thank Dr. Mackay for his catalogue of archaisms, which would have been better if he had omitted many words that do not belong there, being still in constant use; had he included many words that do belong there, and spared us his sentimental sorrow over deceased words; and his

pathetic appeal for concerted effort among literary men to galvanize them back into life. The book is well meant, no doubt, but inadequate and quite unnecessary.

It has no *raison d'être*. The title is a misnomer, of course, but then, if the volume had been simply described as an "Archaic Glossary, with illustrated passages," the intelligent reader of its announcement would have at once bethought him of Wright's Glossary, and Halliwell's, and Nare's, and have wondered in what respect the new compilation supplemented those excellent works—accordingly the book is heralded as "Lost Beauties and Perishing Graces of the English Language!" Now, leaving out the question of good taste, we think this a mistake, even from a commercial point of view. It is not at all a "taking title," but sounds elaborately dolorous.

MUSIC.

Clark's New Method for the Piano. Embracing all the latest Improvements in the Technics of the Instrument; an Exhaustive Analysis of the Scales and Chords, and a carefully selected series of Studies from the greatest Masters. By HUGH A. CLARKE. Large 4to., pp. 256. Philadelphia: Lee & Walker.

THE title page here copied is highly laudatory, but we cheerfully admit that the work has abundant merits to justify even its author's enthusiastic estimate. Those of our musical friends who are best qualified to form an opinion on the subject, pronounce it greatly superior to the "New Method for the Piano," published at Boston. But the latter should now be rather called the "Old Method," for it is proper to say that it is much behind the time in several essential particulars; although constantly advertised as "New," thereby deceiving many who cannot afford to lose their money.

Among the new features which the work before us contains, are the fingering of scales in double thirds, the *appeggios* in use in the Liepsig Conservatory, and the introduction of five finger exercises. The selections embrace a wide range and present an extensive variety, including as they do, some of the happiest *morceaux* of composers like Bertini, Cramer, Schumann, Heller, Mayer, Concone and Kullak. Indeed in no similar work have we found so many veritable gems.

Junior students and beginners will find the vocabulary at the end of the work worth a good part of its price. It contains the Italian, French, and German words and phrases used in piano music, all rendered into plain English. To these remarks we need hardly add that we confi-

dently recommend Clarke's "New Method," as a work worthy of a place in every school, as well as in every family, where music is taught or studied.

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1. *Mother Bear me to the Window.* Song and Chorus. Written and composed by JAMES BAYMAN.
 2. *Bird of Dawn.* Duett. Words by GEORGE COOPER. Music by CHARLES E. PRATT.
 3. *Donna Ada's Polka, for the Piano Forte.* By T. M. BROWN.
 4. *Tribute Quick Step.* Composed by C. S. GRAFULLA.

New York: WM. A. POND & Co.

THE titles of these pieces are more modest than ambitious, but they will not be found the less pleasing on this account. The Messrs. Pond & Co. have an extensive *repertoire*; none of our music publishers evince more taste and judgment in selecting the pieces on which they set their imprint, and the above five have each become favorites to a greater or less extent among amateurs who have confessedly a delicate touch and an accurate, faithful ear. This is particularly true of the "Bird of Dawn," and "Donna Ada's Polka;" the latter of which reminds us of Keat's, "Ode on a Grecian Urn," especially of the lines—

"Heard melodies are sweet, but those unheard
Are sweeter; therefore, ye soft pipes, play on;
Not to the sensual ear, but more endeared
Pipe to the spirit ditties of no tones."

The musical critic of the National Quarterly will take pleasure in indicating, from time to time, such pieces issued by leading publishers as seem most successful in combining melody and sweetness with facility of execution; qualities which the above will be found to possess in a high degree, unpretending as they are in their titles.

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1. *Universal Library. Third Series: A Collection of Pieces from the best European Authors.—La Triomphe, Grande Valse Brillante.*
 2. *Twinkling Stars. Six Little Pieces for Beginners.* By HENRY MAYLATH.
 3. *Qui Va La. Grand Galop de Concert;* a companion to *Qui Vire Galop.* Composed for four hands by JOHN P. STOCKTON, Jr.
 4. *Erangeline; Valse Redowa.* By GIOVANNI GODONE. Arranged for four hands, by H. MAYLATH.

To which Gluck replies, as follows:

" J'ai toujours fait assez de cas,
D'une savante symphonie,
D'ou résultait une harmonie
Sans effort et sans embarras.
De ces instruments hauts et bas,
Quand chacun fait bien sa partie,
L'ensemble ne me déplait jas ;
Mais ma foi la Harpe m'ennuie."

That Gluck had some wit in his head as well as melody, was sufficiently evident from this conflict, but probably he showed his wit best in admitting at the eleventh hour that after all the critic was right and he was wrong.

Be this as it may, we mean to have our eyes in future on those music publishers who, while they assume airs of respectability and honor, not only call their old methods "New Methods," etc., but also advertise their first and only edition as sixth edition, eighth edition, tenth edition, etc.

APPENDIX—INSURANCE: GOOD, BAD, AND INDIFFERENT.

Annual Statements of Insurance Companies. New York, Boston, Philadelphia, Hartford, etc. 1874.

To those bearing in mind certain events and characters, it may seem a paradox to say that the public may well regret how much the prestige of life insurance has fallen; such, however, is really the fact. But the large majority would require an explanation just now. Nor is it difficult to give one: to the thoughtful mind, a dozen will readily suggest themselves. The following will answer our purpose as well as any other: Take any one of our large cities, and think for a moment what a number of persons it contains who call themselves physicians. In New York there are, on a moderate calculation, from 700 to 1,000. Nine tenths of these know very little about medicine. Nay, it is no exaggeration to say that this proportion kill more than they cure.

The thoroughly educated, experienced, skilful physicians who really alleviate human suffering and wrest many from the very jaws of death, are exceedingly few; certainly not more than a dozen out of the above thousand. Now these dozen are by no means the wealthiest; it is not they that have the most elegant houses or the finest carriages; nor is it they who exhibit the largest diamonds. On the contrary, they are, in general, the men who, above all others, are least fond of display. It is not for houses, carriages, or diamonds they value themselves, but for their skill and knowledge, for the amount of good they do, for their

power to subdue disease and ward off death as long as human agency can do so.

Upon the other hand, it is those who have least knowledge and least skill—those who, in fact, are absolutely destitute of both—that make most display, and are loudest and noisiest in their pretensions. Besides those quack doctors whose chief business it is to manufacture drugs which they claim to be universal specifics—elixirs and balms which can never fail if the patient will only swallow a sufficient quantity of them—there are others who prowl about in private, calling themselves “regular practitioners,” and who rarely give a prescription which does not do much more harm than good. In short, nothing is more certain than that it is those who make the loudest promises, and who claim to have made the most recent discoveries in medicine, or to have introduced the “newest features” into the healing art, that do most mischief—in a word, kill most.

It is not strange, then, that we read in the histories of all civilized nations, ancient as well as modern, of whole communities coming to the conclusion that physicians are of no use; that they do more harm than good, and that of course it is better, therefore, to do without them altogether. Now, this is the sense in which we have said above that the public has reason to regret having arrived at a conclusion so adverse to life insurance. It is just as true that we have honest, faithful underwriters who shield from poverty and its consequences thousands of widows and orphans entrusted, in a certain sense, to their charge, as it is that we have educated, experienced, and skilful physicians who not only relieve human suffering, or remove it altogether in innumerable instances, but save the lives of thousands. Then, if this be admitted—and no one can deny it without incurring the charge of ignorance, thoughtlessness, or wilful misrepresentation—it must also be admitted that it is as absurd and foolish to condemn all underwriters because many claiming to be underwriters have behaved more like sharpers or swindlers than like honest men, as it would be to condemn all physicians because the large majority of those claiming to be physicians kill more than they cure.

Many a time have we urged in these pages that thousands would have cause to repent, as they now do, if they did not exercise discrimination in insuring their lives. At no time have we shrunk from warning the public against the machinations of precisely those classes of underwriters who promised most and made most display; nor have we excepted those who build the largest “palaces” whether the latter are composed of white marble, granite, iron or brass. We have said again and again, that of all the English companies that had failed and robbed as far as they had it in their power, all who put faith in their “fair speeches and fine promises,” none had built more imposing or more expensive structures than those who distinguished themselves most at this sort of

work. We have shown repeatedly that it was the latter class that were most in a hurry to erect showy buildings—buildings the sumptuousness and magnificence of which would have the effect of securing the confidence of the credulous long enough to fill the coffers of their owners. Nor did we omit, in giving these warnings, to show that there were American underwriters who pursued exactly the same course.

Upon the other hand we did not fail to show that there were no American companies that transacted their business in more modest buildings than those most proverbial at home and abroad for their integrity! As examples of this class we have more than once mentioned the Phenix Mutual of Hartford, the New England Mutual of Boston, and the Manhattan of our own city; and we may remark now in passing that these are to the great majority of our life insurance companies just what our experienced, skilful, faithful physicians are to the hundreds of mountebanks and human butchers who call themselves physicians.

There are many marks by which the spurious brood of "benefactors" may be distinguished, and there are many grades of them. We have fully portrayed the different species, as well as the genus, from time to time. But it may be remembered that at no time have we maintained that insurance companies are to be judged according to the amount of their "assets," even when the latter are real, not imaginary. Millions are easily set down in figures; the most ignorant class have learning enough to multiply a million, or half a million, by five, eight, ten, nay twenty. Then need we say that those who would deliberately cheat the widow and the orphan would as deliberately swear that their \$1,000 is \$1,000,000, or, if that seems better, \$10,000,000.

But let us assume that the money really exists—say about one-third the amount advertised. None are more purse-proud or more pompous than those who have made their money chiefly or wholly by fraud and misrepresentation. The grand dukes of Italy in their palmiest days, the doges of Venice, or the petty princes of Germany, were modest and unpretending, compared to our insurance nabobs; and 'tis but natural that none are more arrogant, or more tyrannical to those in their power than those who betook themselves to insuring the lives of others while they were not able to pay their board, and while their character was so defective that no business man who knew them would trust them to the amount of one dollar.

No class has derived more aid from the press than this: no class is so much indebted to the press. Editors, like other men, are often deceived. It may be more difficult to impose upon them in general than on men engaged in pursuits in which the reasoning faculties are not called into play as much as they are in editing. Persons constantly in the habit of comparing facts with each other—persons a prominent part of whose duty it is to deduce conclusions from premises more or less obscure—are apt to be more wary, more skeptical than others. But ac-

cordingly stronger efforts are made to deceive them; and being deceived—led to believe that the mere semblance of honesty is the genuine virtue—they proceed to proclaim that the brass or pot-metal is gold until they enrich those who took so much pains, not only to throw dust in their eyes, but also to awaken their enthusiasm in favor of “the good work.” It can hardly be regarded as strange that none are more ready to insult them than those whom they have thus raised up in the world, and enabled to build grand palaces at the public expense. A curious illustration of this was given by the Chamber of Life Insurance at its meeting of January 27th. From three resolutions which that body thought proper to pass in regard to the press we extract the following:

“Resolved, That if any journal, whether belonging to the insurance or the *general press*, shall *attack* any company, a member of this Chamber, on account of its action in disposing of its advertising patronage, all other companies, members of the Chamber, *will withdraw their advertisements from such journal.*”

The obvious meaning of this is, that any one who ventures to criticise the action of any company belonging to the Chamber is to be regarded as having made an “attack” upon it; and it follows from the same logic that to “attack” is to show malice, the cause of the latter being that the attacked company has withheld “its patronage” in this particular instance! What an outcry there would be if the press made a similar threat against the Chamber of Life Insurance! All editors would then be “black mailers,” so far as it was deemed safe to say so. But there are several companies nominally belonging to the Chamber which it would be unjust to hold responsible for the above “resolution,” or any such foolish, silly thing. It should be understood that three or four individuals control the Chamber, and these are the individuals who have most to fear from “attacks,” conscious as they are that their “statements” contain but a slight amount of the element of truth. Thus, for example, who would wonder at the wish of F. S. Winston, of the Mutual, to gag the press? Then we have Batterson, of the Traveller’s Life, in the Chamber; also Freeman, of the Globe Mutual; Bouck, of the Brooklyn Life; White, of the Charter Oak Life; Enders, of the Etna Life; Goodwin, of the Connecticut Life, etc.

There is not one of these who has not good reason to feel a little shy of the press. Mr. Hyde, of the Equitable, used to know better; at least, he used to act more judiciously. But now, it seems, he is entirely converted to the views of Winston, Batterson, White, Bouck, *et hoc genus omne*.

Upon the other hand there are, as we have already intimated, a few companies nominally belonging to the Chamber who take little or no part in its proceedings; if they ever do take any active part it is certainly not the part of making threats, or the part of trying to conceal what they are doing from their policy-holders. This is eminently true, for example, of the New England Mutual. If the President of this com-

pany has taken any part whatever in the proceedings of the Chamber, it has been a very different part from that of which the above serves as a specimen; nay, we are convinced that Mr. Stevens would not long continue to belong to any chamber, cabal, or clique that had no better sense than to render itself thus ridiculous. The same may be said, we believe, of the officers of the New York Continental. We also believe that Mr. Morgan, of the North America, has more sense and more manliness than to be found voting in favor of any such "resolution." But there is scarcely anything the rest could do that would surprise us, excepting Mr. Hyde, Mr. Enders, and Mr. Wetmore, who, until they became demoralized by "evil communications," were good and true men.

At the date of the above resolution twenty-three companies were officially announced as belonging to the Chamber. Of this number we had implicit faith only in three; and nothing has occurred since to enlarge our faith. It is a curious commentary on the lofty pretensions of that body that since they passed their famous "resolutions," two of the allied companies have either ceased to exist altogether, or are now in the throes of dissolution—we mean the Guardian Mutual and the Government Security. We may remark parenthetically that we are sorry for the Guardian, which deserved a better fate, since it always meant well, and often did well. We wish we could say the same of the Government Security, but we have never heard a good or creditable act ascribed to that concern except by the insurance puffers, who, for obvious reasons, praise those most that deserve most censure. At all events it was in vain that both joined the Chamber; and we could mention several other companies that will have a similar story to tell before long.

We have given the Guardian credit for having often meant and done well; but it certainly did not do well in its last moments, no matter how well it meant, if it be true that the company to whose care it has transferred its policy-holders is the so-called Universal Life. This company also belongs to the Chamber. If the Chamber were an hospital, as some call it—at least, if it were an hospital whose chief acting physicians had some knowledge of the healing art—the Universal, like the Globe, etc., ought to be commended for entering its wards. But as the case stands, we can only say, alas! for the policy-holders of the Guardian!

So far as we have learned, the Manhattan Life, the Phoenix Mutual, and the Mutual Benefit persistently decline to have any connection with the Chamber. We are assured that none of them have any faith in the wonderful virtues which that concern is said to possess, and which it is claimed will continue to increase in geometrical proportion as it waxes old. The truth is that the officers of these three companies know too much about the chief actors in the Chamber; and we learn that they are as fully convinced as ourselves that if the officers of the New England

Mutual, the New York Continental, and the North America, knew the same party, and their real motive in getting up the Chamber, they would not continue members for one week. In short, we are informed on good authority that when the President of the New England Mutual returns from the South, where he is on a tour of visitation among his agencies, he will either politely resign his position in the Chamber, or without any formal resignation, persist in keeping aloof from that wise, upright, and doughty conclave. Be this as it may, our readers see that we are not much frightened by the threat we have quoted, but give our opinions just as freely as ever. Nor shall we cease to do so as long as we are able to use our pen, let the patronage go as it may. Thanks to the most intelligent classes of the American people, we are not now, and never have been, dependent on any clique or cabal, and trust we never shall be. Not that we would say one depreciatory word of the great underwriters of America who are worthy of the name, or deny that there are amongst them gentlemen of intelligence and honor who would have adorned any calling or profession.

We have been in no hurry to refer to the termination of the war between Winston and his former henchman. How disgraceful that war was is notorious. But this we looked upon, it will be remembered, as just what was to have been expected from both the combatants. It may be remembered, also, that we predicted more than once that Winston and English would one day prove their worthiness to be compared to the strolling tinkers of Europe, who to-day batter and abuse each other, and to-morrow are as intimate as pickpockets! It was, therefore, no surprise to us that the journal which for a whole year or more was devoted almost exclusively to abuse of Winston, charging him with nearly all sorts of crimes, the same as it had been devoted for several years previously to the most fulsome praise and adulation of the same personage—ascribing to him all the virtues of the saints—it was, we say, no surprise to find that all of a sudden Winston and English were again friends, at least as much friends as such persons can ever be to each other. Winston had not taken into account, when he fell out with his retainer to what extent he had revealed his secrets to the latter without at all meaning to do so. Now the main question is, How much did English get for saying no more about the dirty work?

The Baltimore Underwriter, always one of the best informed and most independent of the insurance journals, has the following comments on this precious matter. Referring to the sudden termination of the war of dirt-throwing, the Underwriter proceeds:

"It has provoked criticisms and conclusions which are anything but complimentary to the parties concerned in the compromise. For it is very evident that nothing but compromise could have stopped the cannonading of the Ludlow street martyr. How or by whom this silence was purchased, or what price was paid, we presume will always be as much of a mystery as the song which the syrens sang. The impression appears to be that the Chamber of Life Insurance was the high

contracting party which furnished the 'hush money.' Whether such inference be correct or not, it is very certain, in view of *this disgraceful affair*, that the reputable journals owe it to their own self-respect to inquire more closely into the character of the company they are keeping, and to ascertain whether, after all, the best method of earning and deserving the patronage of the companies is by a system of sweeping and wholesale blackmailing."

Another Baltimore paper (The Enquirer) has undertaken to "vindicate" Winston, and in doing so it throws out some hints in regard to other parties, but pretends to regard these hints as preposterous! Alluding to the report that it was the Equitable or the Chamber of Life Insurance that furnished the hush money, the Enquirer asks:

"Why should either pay \$35,000 to English? Mr. Winston might have compromised the slander and imprisonment suits and paid the award of arbitration, *without loss of personal character and without suspicion of official corruption*. But why the Equitable or the Chamber of Life Insurance should be so pliant as to pay \$35,000 for Mr. Winston's benefit, is 'one of those things no fellow can find out.' And while the '*David and Jonathan*' relation of the Equitable and Mutual has excited much comment and provoked some criticism, yet to suppose Mr. Hyde so *effectually beaten* in the late quarrel as to be ready to pay \$35,000 for future peace, is preposterous."

It is a good joke to speak of Mr. Winston's doing anything "without loss of personal character," and as for "suspicion of official corruption," that, of course, is out of the question! But that he should make a cat's paw of our friend Hyde is too bad. However, let us quote another orthodox authority. It affords us pleasure to give the "Monitor" credit for great improvement in the matter of independence. Indeed, since it came into the hands of its present editor, that journal has done much to elevate the character of the insurance press. Referring to the famous, or rather infamous, compromise, the "Monitor" says:

"We interviewed Mr. Hyde and Mr. Heald, and called four times to see Mr. Beers. The latter gentleman was out of town, and all we could get from the others was, "Shhh, don't say anything; keep perfectly quiet. If you are a friend to life insurance, don't say a word about it. It is all right—shhh now. I tell you it is all right, and perfectly honorable to both parties; *but you mustn't say anything*."

Alas, poor Hyde! Has it, indeed, come to this? As for Beers, if we heard anything better of him than that he skulked we confess we should rather be surprised. What of Mr. Wetmore of the Security Life? Has nobody interviewed him in regard to the matter? But it seems that \$2,500 he gave George W. Miller to make things go smoothly at Albany was enough for him for some years to come. Up to the time that amount was withdrawn from its "assets" the Security seemed a very secure concern, but we regret to add that, so far as we can judge, it has never been the same since, and, what is worse, we fear it is not likely to improve much in the future. We do not hesitate, therefore, to acquit Mr. Wetmore and the Security Life of all complicity in the hush money affair which has had the happy effect of again reconciling to each other two such distinguished and worthy persons. To this we need only add

that, if there were any so credulous as to believe Winston innocent of the charges made against him, their eyes must, we think, be opened by this time. What will the policy-holders of the Mutual Life say now? What will the public say? Is it strange that the prestige of Life Insurance is gone?

In the meantime there must be something fearfully rotten in Brooklyn, if not in Denmark, for we have counted in the "Insurance Times" for February no fewer than seven different puffs of the Brooklyn Life, and puff No. 1 fills the first page of that veracious journal, making three full columns. The others are scattered about from page 106 to page 149, inclusive. This is exactly the manner in which the same journal used to bedaub Winston for years. Bouck may well be proud, but, we think, the policy-holders of the Brooklyn Life may well indulge a very different feeling, and ask Bouck what is all this white-washing for?

We are here reminded of the National Life of New York. At the time this company retired from the field it owed us \$100 for its last advertisement. We have never asked this, further than to send in our bill, as usual, before hearing of the retirement. Nor did we intend ever asking it on learning that the company was in the hands of a receiver. But we soon found it was not necessary for us to do so. The receiver wrote to inquire what proportion of our claim would satisfy us. We replied that any proportion he deemed fair, under the circumstances, would be entirely satisfactory to us; and the result was that we received every penny due us. We cannot but regard this as an interesting instance of "the ruling passion strong in death;" for the New York National was always scrupulously faithful to its engagements. We do not know by whom was Mr. Eli Thayer appointed receiver. We have never spoken to that gentleman; to our knowledge we have never seen him; but that he has acted in strict accordance with the honorable principles by which the managers of that company were always actuated is a fact to which we can bear emphatic testimony. The company to which the interests of the policy-holders of the National have been entrusted by its officers is the American Life, of New Haven; and the New York branch of the latter has been placed in the hands of the secretary of the former, Mr. J. A. Mortimore, a gentleman in every way qualified for the position, and in whose integrity and fidelity the policy-holders of both companies may place implicit confidence.

But it is time that we illustrate more particularly our views in comparing true life underwriters to true physicians. To begin at home, we can find no better specimen than the Manhattan Life. Referring to its annual dividends, and other substantial advantages offered to policy-holders, the Manhattan mentions facts, as follows, of which any company might well be proud:

"The first consideration in this Company has been to secure the *certainly* of the payment of the sum assured at death, and next to reduce the cost as much as pos-

sible. That these considerations have been successfully accomplished is shown in the facts that this Company has now been for over twenty years in successful existence, having, on claims by death, paid mainly to Widows and Orphans, over \$4,000,000, and in Dividends, \$3,000,000, and now has an accumulation of over \$7,600,000, and a surplus of over \$1,500,000, over and above liabilities. The Directors call attention particularly to these facts regarding this Company, as owing to the winding up of some weak companies, some distrust has arisen in the minds of those who have had, heretofore, entire confidence in the security offered by Life Insurance to families."

Unfavorable as the past year was it enabled the Manhattan to present a handsome record. Its income for 1873 is summed up thus :

"For Premiums, Extra Premiums, &c.....	\$1,596,318 27
For Interest.....	531,752 78
For interest, &c., accrued.....	265,101 01
	\$2,393,172 06."

Its disbursements have been large, but of the right, encouraging kind. They include no "hush money," no drafts from a bribery fund. The following items speak for themselves:

" r Claims by death on Policies and payment of annuities.....	\$679,187 16
Paid for Dividends, Return Premiums, Purchased Policies, and Interest on Dividend.....	494,072 19
Total Amount returned to Policy-holders	\$1,173,259 35
Paid for Expenses, Salaries, Taxes, Revenue Stamps, Medical Examiners' Fees and Commissions	313,677 93
	\$1,486,937 23."

The reader will observe the amount returned to policy-holders, and then bear in mind that the Company's gross assets exceed nine millions (\$9,009,462.33), while its undivided surplus is more than a million and a half (\$1,666,626.95). This shows a much better condition of things than that of those bribing, compromising, quibbling, flashy companies that boast of having assets more than twice as large, but the real value of whose boasting is now pretty well understood by the public.

We have more than once compared the Phoenix Mutual, of Hartford, with the Manhattan, and we are glad to say that the comparison holds good still. It is a fact worthy of remark that the former is the only Hartford life company whose prestige has not been lowered in some way or other within the last four or five years; to speak more unequivocally, it is the only Hartford company whose reputation has not suffered. Next to the Phoenix the Charter Oak held out best in this respect. Indeed, while the latter was managed by Mr. Walkley, there was no more honorable company; nor was there any safer company. But for some two or three years past it has been managed, or rather mismanaged by Mr. White, its present vice-president, and the results of his *modus operandi* are presenting themselves in various forms more or less ugly. The following

account of one of its suits, which we extract from the Insurance Spectator for March, will serve as a specimen :

"On the 6th of May, 1853, a policy of \$5,000 was issued by the Charter Oak Life Insurance Company, of Hartford, on the life of J. W. Smith, for the benefit of his wife. The premium was \$104 per annum. The premiums were regularly paid up to the 6th of May, 1861, and the premium due on that day was tendered and refused, and the company *has since refused to receive the annual premiums and has declared the policy void*. The answer of the company alleges a breach of the conditions of the policy, in that Smith voluntarily entered the Confederate service without the consent of the Company, and that he *has become so intemperate as to impair his health* ; there is also a plea of the *statute of limitations*.

"The case was tried before a jury in special term, and it was proved that the premiums were promptly paid to May 6, 1861, and on that day the amount was tendered by a brother of Smith to the agent of the Company at Lynchburg, Va.; that the agent hesitated about receiving the money, because the civil war existed, and he was cut off from communication with the Company; that he received it, however, conditionally, but returned it on the 14th of March, 1872, the agent stating that he had been unable to communicate with the company. Smith testified that he volunteered in the Confederate service in November, 1861, and served until 1863. It was proved that Smith *was in good health, and not addicted to intemperance*."

Those whose lives are insured are accused, by certain companies, of intemperance and, if possible, still worse vices, after their death, on the same principle that editors who criticise are accused of malice, spite, etc. This is the sort of insurance which Southerners designate "iron clad,"—a species of the article in which it will be remembered the New York Life seemed for some time to enjoy a monopoly. But the thing has failed this time in the case of the Charter Oak, for both judge and jury were of opinion that the company should be made pay. We are told that "large oaks from little acorns spring," but if ever an oak, large or small, dwindled back to the acorn state, such a phenomenon may be witnessed in Hartford before many years, under the wise auspices of Mr. S. H. White. Like many others of about the same calibre, Mr. White used to do very well while he was secretary, his most important duties then consisting in writing puffs of the Charter Oak, in questionable English, for the country newspapers. But promoted to the rank and pay of vice-president, as a reward for his skill in that sort of thing, and allowed to take Mr. Walkley's place in the management of the company, he is determined to make his mark, and he has already succeeded in making several—such as that noted above!

But to return to the Hartford Phoenix Mutual. As one true physician is better than a score of quacks in accordance with the proposition we have laid down at the beginning of this article, so is the Phoenix, without any exaggeration, better than a score of those companies which, in nine cases out of ten, have some reason or other to refuse payment until compelled to pay. Instead of any "iron clad" record like the above, the Phoenix show that only three companies in America did more busi-

ness than it in 1873. A comparison of its own business for the two past years exhibits the following results:

	Income.	Dividends paid Policy-holders.	Losses by Death.	Not Assets.
1872.....	\$3,413,752 45	\$943,441 71	\$831,116 32	\$8,209,375 07
1873	3,521,240 57	1,070,453 43	932,534 75	9,074,861 34

None need be reminded of what 1873 was in a business point of view, and no business suffered more than that of insurance. Yet the Phoenix Mutual, instead of falling behind, increased its income, increased its dividends, and increased its assets, after paying nearly a million to widows and orphans. Add to this the fact that it commenced 1874 with a surplus, free of all liabilities, of \$875,000, and it will be admitted that it is no mere figure of speech to regard the Phoenix as a true physician. It may be that the Charter Oak, the Aetna, the Connecticut Mutual, and the Traveller's have more money than the Phoenix; but if they have—which may safely be doubted—it is certain that they do not possess, between them, one tenth of the honesty, judgment, and sound common sense of that energetic, solid institution.

Many regard it as not a little strange, that, while Boston can justly boast of excellent institutions in every other department in which success depends chiefly on intelligence and intellectual effort, it has only one Insurance Company worthy of the name. It is needless to say that this one is the New England Mutual; but it is really worth a dozen for the good it accomplishes. Our readers are aware that we do not belong to the class of "foreigners" who would disparage Boston or Massachusetts. None belonging to that city or state appreciate more fully the truly excellent characteristics of its people. Far from denying that New Englanders in general have many sterling qualities, we have always taken pleasure in bearing testimony to those qualities. Nor have we entertained this feeling without good reason—it is the result of the observation and experience of many years—observation and experience illustrated by extensive personal intercourse. In a word, none think more highly than we of the intelligence, talent, energy, industry and general probity of New Englanders; and for more than a dozen years we have regarded the New England Mutual Life as worthy, in every respect, to represent such a people. It is with sincere pleasure, therefore, that we find in the Thirtieth Annual Report of that Company ample evidences of its continued prosperity, in spite of panics and "hard times." The following extract explains itself; we quote it because we think that no true friend of the cause of the widow and orphan can be indifferent to the success of a Company like the New England Mutual:

"The receipts for the year have been, from all sources, \$3,288,689.54, and the payments, which include death claims, matured endowments, returned premiums on cancelled and surrendered policies, interest paid for advance on investments over the par value, and taxes and expenses of every kind, have amounted to \$1,569,682.11.

Deduct the death claims due within thirty days, \$115,777, and the actual gain for the year is \$1,719,007.48.

"The Assets on the 31st of December, 1873, after providing for every outstanding obligation, were \$12,229,380.77. The present value of the Company's future liabilities upon 21,854 policies, on which the amount insured is about \$65,000,000, has been carefully computed by our Actuary, Mr. Walter C. Wright, and the sum of \$21,647,860.77 set aside as the actual capital with which to commence the year 1874. The market value of the securities is \$289,343.01 more than the amount at which they stand upon the books of the Company. This excess of value, equal to about one-half of the declared surplus for the year operates favorably upon the reserved funds."

This, be it remembered, is the official statement of men whose integrity has never been questioned—men prone to no exaggeration—men who periodically instruct their agents to do no business rather than make any representation to those desiring to insure their lives which is not in every particular strictly true.

It seems that some have regarded us as actuated by local prejudices in our criticisms of Philadelphia companies, but we can claim, without vainglory, that we rarely, if ever, make any criticisms the truth and justice of which are not fully vindicated by time. We could point out several recent examples of this, but we do not envy those who triumph over the dead, or the dying. We greatly prefer to disprove the imputation alluded to by showing that there are Philadelphia companies which deserve to be ranked among the most faithful and most solid. This is eminently true, for example, of the American Life of that city. Most cheerfully do we admit that there is no company in whose policy we should have more confidence; and in accordance with this feeling we cheerfully place on record its receipts for 1873, as we find them in its last annual statement:

"Premiums received during the year.....	\$1,175,737 38
Interest received from Investments and Rents.....	254,623 56
	<u>\$1,430,360 95."</u>

We see from the same official document that the surplus premiums returned by the American, in 1873, to the insured, amount, including dividends, to \$306,743.72; we see also that its assets approximate pretty closely to four and a half millions (\$4,450,266.75). In short, as long as the American continues to be managed by Mr. Geo. W. Hill we shall have no apprehension either of its solidity or its integrity.

The second Philadelphia company which may justly claim to be ranked among the faithful few that we compare with the true physicians is the Provident Life and Trust. This is similar in its plan and objects to the "Friends' Provident Institution" of England, one of the very small number of English companies whose escutcheons have never been sullied by a faithless or dishonorable act. We certainly see no reason why the Friends of Pennsylvania should not prove as faithful, energetic and successful as their English brethren—especially the class of Friends

whose good name and fame are associated with the Provident Life and Trust, and there are no better men in the Quaker City than its principal officers. From its Ninth Annual Report we extract the following agreeable evidence of progress during the panic year:

"It will be seen, by the statements herewith, that an unusual growth in the number and amount of policies issued has marked our business for the past year. Policies for the sum of \$4,582,726 have been written, making an increase of more than fifty per cent. over the business of any previous year. As the temper of the times has been adverse for several months past, and the year throughout has been far from prosperous with the general community, we are justified in believing that such results are an omen of yet larger figures in the near future."

Mr. Samuel R. Shipley, the worthy President of the Provident Life and Trust, enters into particulars as follows:

"The Life Insurance fund now invested is \$1,504,908.62, which, together with the cash on hand belonging to the Insurance Fund, makes a total of \$1,534,785.34, a sum considerably in excess of the reserve necessary to protect our risks as they fall in. The capital of \$500,000, which is safely invested, apart from the Life Insurance Fund named above, affords an additional guarantee that the pledges of the Company will be faithfully met. We have also a contingent fund of \$121,426.58, belonging to the stockholders' account, to protect the capital from any possible loss; and in view of the demands of the future, we have procured from the Legislature of the State of Pennsylvania authority to increase the capital to \$2,000,000 whenever the interests of the Company shall seem to demand it."

Now, we think that in presenting these facts to our readers, and admitting, without hesitancy, our confidence in their truthfulness, we fully exculpate ourselves from the charge of local prejudice in regard to the good city of Philadelphia. Nay, we really take pleasure in showing that while certain New York, Boston and Hartford Companies are degenerating, falling into consumption, or ceasing to exist altogether, Philadelphia companies are acquiring renewed energy and vigor. In other words, we think the public has an interest in knowing that while the presidents and vice-presidents of certain New York, Boston and Hartford companies seem to be losing whatever modicum of common sense and decency they had in the past, those of at least two Philadelphia companies are becoming more comprehensive in their views, more cosmopolitan in their feelings, and, what is better than all, more and more intent on regarding honesty as the best policy.

But it must not be supposed that we would overlook the merits of companies like the Mutual Benefit of Newark, and the Continental, United States, and North America, of New York; each of which, we are glad to see, continues to exhibit, without ostentation, unmistakable evidences of prosperity and success. We observe that the Newark Company received for premiums and annuities during 1873, nearly five millions and a half (\$5,402,158.53), and nearly two millions (\$1,769,251.91) for interest. To these pleasant facts and figures it is sufficient to add that the company proves the possession of real assets to the

amount of over twenty-eight and a half millions. As long as this company is managed by so able and faithful an officer as Mr. Grover, its policy-holders need not fear but their interests are in safe hands.

The new vigor infused into the good old United States Life by Mr. DeWitt is still productive of its appropriate fruits. Its receipts in premiums and interest, during 1873, amounted to nearly five millions and a half (\$5,351,729.28). Its assets, at the beginning of the present year, according to the official statement before us, were over four millions (\$4,219,813.68), while its surplus, as regards policy-holders, was over six hundred thousand (\$632,443.46). As there was no more successful agent than Mr. DeWitt while he represented the interests of the Phoenix Mutual, so there is no president more successful, all things considered, than the sagacious, shrewd, officer who guides the destinies of the United States Life. The New York North America's system of registration of policies continues to prove an attractive feature; nor do we know any one who has not found that attraction genuine and substantial. As for the New York Continental, it is almost superfluous to say that it does not lag; that it is as prosperous as ever a few of its official figures will show. Its income in 1873 is indicated as follows:

"Premium Receipts.....	\$2,548,795 32
Interest and Rents received and accrued.....	983,865 93."

Its assets, according to the official "statement" before us are over six and a half millions (\$6,539,325.62); its surplus as to policy-holders amounting to \$671,641.62.

We had intended to condole somewhat, in this article, with the policy-holders of several companies which are said to be in a moribund condition; but we find we must beg them to wait for our next number. We confess that we procrastinate thus all the more readily when we bear in mind the startling fact that, not fewer than 57 life companies have ceased to exist since 1865. Being unwilling to add to this great mortality until the patients have had sufficient time to secure proper treatment, we prefer to conclude our remarks on life companies in cheerful and encouraging rather than in lugubrious language.

Nor can we do this more conscientiously, or more justly, than by congratulating the policy holders of the good old Knickerbocker on the election of Mr. John A. Nichols to its presidency. This gentleman has been connected with the company in one position or another for nearly twenty years; and in every position he has distinguished himself by his ability and success. As general agent for the South-eastern Knickerbocker territory—which includes Maryland, Delaware, Virginia, West Virginia, and the District of Columbia—he very considerably increased the wealth and strength of the company. In consideration of the important services thus rendered the directors elected him second vice-president a little more than a year ago. Six months later he was elected first vice-president; and finally, he was made presiding officer, some two weeks since.

This shows that the present directors of the Knickerbocker are men of discernment and understanding; for they really could not have served the policy-holders better, or contributed more to the stability of the company than by making this appointment.

We trust we need hardly say that we would not speak in these terms of any functionary or person without being fully informed as to his character. But it is our privilege to have known Mr. Nichols intimately for more than a dozen years; and we really have known no one who combines, in a higher degree, the most essential qualities and qualifications of a life underwriter. During the presidency of Mr. Erastus Lyman the company possessed the advantage of having at its head a gentleman of polished and agreeable manners, as well as an accomplished, energetic underwriter. We were, therefore, sorry for his retirement; but since he has retired we know no one who could have filled his place more efficiently, more gracefully, or more for the benefit of the policy-holders, than Mr. Nichols. It is almost superfluous to add to these remarks that our faith in the Knickerbocker is much increased. Its new President will know how to make the best use, for the benefit of the widow and the orphan, of its (more than) seven millions of assets (\$7,064,137.67), and its (upward of) one million (\$1,177,242.73) surplus.

But both our space and time are exhausted. Our glance at the life insurance world has been rapid; yet we think we have shown that, notwithstanding the discredit brought upon the cause by certain classes of underwriters described, more or less plainly, in the preceding pages, there is really no good reason why the public should not be as anxious as ever to avail themselves of the undeniable advantages of life insurance.

Since the great fires of Chicago and Boston have occurred we have abstained, for obvious reasons, from making any criticisms on fire companies. But there has been time enough now for resurrection and recuperation. Accordingly we intend to resume our strictures on malefactors in the Fire Department; and we have good reason to believe that that interesting class have rather increased than diminished in number since the great calamities alluded to. Our readers may remember whether we spoke at random on fire insurance while we continued to discuss that subject. In proof of this, we may refer to our predictions in regard to the International Fire, the Security Fire, and several other similar concerns long before they ceased to exist.

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